

Original Correspondence.

THE METALLIFEROUS MINES BILL.

SIR.—The objectionable clauses contained in this bill I consider numerous. In the first place, I most decidedly object to the 1st and 2d General Rules, which are to be enforced in every mine, which give to the Board an unlimited and irresponsible power over the pockets of the mine-owners, which, for anything the bill contains to the contrary, may be exercised to a ruinous extent, for, at best, a very questionable benefit to the miner. Climbing ladders is, no doubt, fatiguing, which is the worst that can be said of it, and so is using a sledge-hammer in a smithy, playing at cricket, or boating, as well as a thousand other occupations. This climbing is, moreover, performed in the best air in all mines; but adopt mechanical means for raising and lowering the miners, and they would have to remain from 30 to 50 minutes per day longer in hot, dry, and dusty places, which is infinitely more injurious to their health than ladder-climbing.

Again, to render the air at all times pure and harmless in any mine where blasting is required is an utter impossibility; and this alone, if enforced, will ruin every mining company in the county of Cornwall, to say nothing about the machinery of which the Board have the power to compel the erection.

If Lord Kinnaird's only object is the improvement of the health of the miner, why did he not, when in the county, and without giving any notice, authorise the medical men to get samples of the air for analysis from their sleeping apartments, and compare the result with the worst found in any mine; and also rigidly enforce into their personal habits?

General Rule 8 requires amendment to prevent an unnecessary outlay, and the 11th General Rule, if carried into effect, will involve such an outlay for timber and fixing as will astonish the shareholders, and nine-tenths of it will be of no earthly use.

The mode to be adopted in getting the Special Rules established is open to grave objections, both on the score of expense and principles adopted; and what is worse, immediately after they are established the whole thing may be upset, to start afresh. "Special Rules established under this Act may be altered or amended at any time thereafter at the desire or with the sanction of the Board," &c. (See last paragraph of Clause 4.) Notwithstanding, Sir, his Lordship's statement, that practical men would have to decide disputed cases. The only clause in the Act on this point, Clause 8, runs thus:—"No person shall be capable of acting in any arbitration under this Act, as arbitrator or umpire, who is a shareholder, or otherwise beneficially interested in any mine." If this does not effectually exclude not only all practical men, but also all those who may be supposed to know anything of the subject, I must be very much in error. It appears to me anything but complimentary to mining gentlemen. What sane man, or body of men, would think of excluding lawyers from the Bench?

Clause 10, too, is very objectionable, which gives the Board power to fix the amount to be paid to the arbitrators.

I trust the mine owners in England will just glance, in imagination, to the bare possibility of one or two Government officials sitting in arbitration on a code of rules for the guidance of their servants, for an indefinite length of time, and then console themselves with the thought of only having half the cost to pay!

I also object to Clause 11. If the Board desire to be furnished with plans and sections, they should in all fairness send to the mines and take copies for themselves.

Clause 14 is also a very bad one, which gives Inspectors power to call off agents and men from their duties, either by day or by night, when they please, and as often as they please.

Now, all mine agents very well know the loss which would often be sustained by such proceedings; in short, the sole management is to all intents and purposes virtually handed over to the Board. Whether they choose to exercise this power is not for us to say; our duty, as miners, is clearly not to allow such powers to be taken from the owners. The more I examine the Act, the more I am convinced of its pernicious tendencies. Just look at Clause 18. After referring to inadequate ventilation, the Board, to firmly grasp the management, even in the minutest detail, says—"Or that any other matter, thing, or practice of or in connection with any mine is dangerous, or defective, or contrary to the provisions and intentions of this Act, the Board may give notice to the owner, or agent of the mine, requiring such defect or danger to be remedied or removed, or other matter, thing, or practice to be abandoned, or altered in such manner, and under such conditions, and within such time as they may direct, and the Board may give such other directions in the premises as to the Board may seem fit."

Then follows a series of fines and penalties, which no human being can escape, if he happen to be nominally the manager of a mine, simply because the various clauses of the Act cannot possibly be adopted. In fact, I consider the bill radically wrong, so generally faulty and impracticable, as to defy amendment so as to make it a useful measure.

A WELL-WISHER TO MINING.

METALLIFEROUS MINES BILL.

SIR.—Having read the letter of "A Well-Wisher to Mining," on the official supervision of metalliferous mines, and having carefully looked over the abstract of the proposed Act, as published in the *Mining Journal* of the 8th inst., I confess I feel quite as strongly against the bill as "A Well-Wisher to Mining" does. If these are the advantages to be derived from the Mines Commission, after three years' labour, one cannot help praying for deliverance from our friends.

Let every person interested in mines, whether labourer or proprietor, carefully consider the subject, and I think they cannot fail to perceive the baneful effects it would have on mines generally throughout the two western counties were the proposed Act to become law. I think, Mr. Editor, his Lordship takes a one-sided view of the case when, in reference to Rule 1, he states there will be no difficulty to decide what an adequate amount of ventilation is, "considering the decision will rest with practical miners." I cannot find this point clearly explained, except Rule 8 apply, wherein it is stated "an arbitrator or umpire must not be a shareholder, or otherwise beneficially interested in any mine." Very logical this, certainly; to call in an umpire who does not understand the matter. This is how not to do it, with a vengeance. Why not call in miners to decide upon the rig of a ship, or to act as umpires to decide the comparative merits of the Whitworth and Armstrong guns? which to me appears quite as reasonable as to call in an umpire who must not be interested in any mine, and who, very likely, has never been underground, and yet the decision must rest with such a one what a proper amount of ventilation is. I can imagine one of these umpires sitting in judgment who are not interested in any mine—never was and never will be, and who hate miners and all connected with them, and who would rather shut up a dozen mines than that a stream of water should be fouled, and thereby destroy a few tiny trout. Unfortunately, we have not to seek far in Cornwall for such disinterested umpires.

Rule 2.—I have looked over this again and again, and, if this rule were adopted, I feel certain that three-fourths of the metalliferous mines must shut up, and certainly all speculative concerns would be suspended. Shareholders even in moderately paying mines would not consent to such enormous expenditure as to provide mechanical means for raising and lowering the miners with the specified covered skips, double-linked chains, separate shafts, extra cased and lined, &c. Besides, it is a well known fact that the majority of Cornish miners are averse to being drawn up by skip; and it is principally owing to this system that they do not like to work in collieries, for the skip, as is well known, is not exempt from accidents of the most disastrous kind. You say "It is evident that it is only intended to require mechanical lifting when it would be attended with economy and advantage." I see no such clause in the rule referred to. In fact, the whole bill seems to me to be framed without the slightest regard to advantage or economy; just the contrary, I consider. I say we must look at the bill as it is, and not what is intended; for if it were passed, and the pound of flesh demanded, there would be the power to enforce it, and doubtless the inclination to take it.

With regard to the special rules contained in No. 4, after having a printed copy exposed for 14 days, and obtaining the sanction of the miners, the Board may still object or propose amendments to suit their fancy. What is this but that the Board shall make the rules for every mine, and enforce them as they may think proper? As to the system of inspection: although you say Lord Kinnaird is opposed to this, as provided in the Colliery Act, just look at Rules 13 and 14; if this is not full power to appoint inspectors permanently, I am mistaken. These gentlemen (perhaps they will be sole miners term first cousins to Aunt Betty), will virtually have the sole management of all mines, with full power to enter, examine, and inspect every mine, examine personally any mine agent or miner

employed; and the agent must give facilities, and all necessary information, so that these gentlemen police may frame their report to lay before the Board, and under Rule 29 inflict a penalty on the agent or labourer for their trouble. I dare say these new-fledged inspectors will show themselves smart, and will not be slow in pointing out some imaginary defects. But, then, there is the consolation that these fines or penalties will be applied for the encouragement of societies for the benefit of miners, less cost of the Board for collecting, &c., I presume. So, after all, there is nothing very beneficial in this. There are several other clauses equally objectionable and oppressive, but I will not trouble you further on the subject at present. I hope, however, those in any way interested in mines will thoroughly discuss the bill, either through the *Mining Journal*, or by meetings convened for the purpose, and that without delay.

St. Cleer, April 12.

W. R.

"CANNEL COAL."

SIR.—In last week's *Journal* you make a quotation from Newton's "Journal of Arts" for April, which erroneously ascribes the derivation of Cannel Coal from the Duke of Bridgewater's Canal. In Dr. Plot's "Natural History of Staffordshire," published in 1686, the learned author, in alluding to the Baudesert Cannel, says—"If they would have it burn quick and flame clear (as the gentry commonly will), they surbed it—i.e., set it edgewise, the cleaving way next the fire, by which means it so easily admits it, that it presently flames as bright as a candle, whence, perhaps, not unlikely it may receive its name, *canneyll* in the British tongue signifying a candle, from *cann*, *candidus*, and *gwyll*, *tenebrae*; *eo quod albere, h. e. lucere faciat tenebras*, says the learned Dr. Davies, in his British Dictionary." Dr. Plot's remarks on the Staffordshire coals and attendant gases are highly interesting.

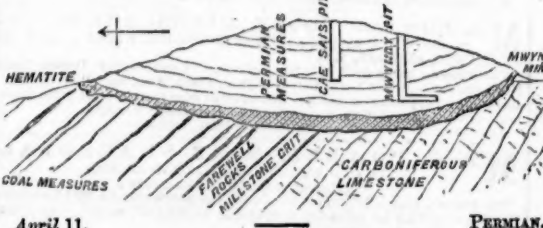
A READER OF THE MINING JOURNAL.

HEMATITE IRON ORE, NEAR LLANTRISSANT.

SIR.—As there has been much discussion lately relative to the singular deposit of hematite iron ore, near Llantrissant, a few remarks thereon, at the period of the annual meeting of the Mwyndy Mining Company, may be acceptable to many of your readers. As is well known, the Mwyndy Company have, at an immense cost, opened a quarry in the carboniferous limestone, from which they have driven drifts at intervals in a northerly direction towards the dip, in the bed of iron ore itself; and from these drifts and the open cutting they have hitherto obtained all their ore. This method of working is obviously the most expensive that could have been adopted. The roof of the undercutting fell in, from being too far underwrought, and the drifts being isolated, require each a separate system of draining; moreover, being driven from the crop to the dip, they carry the water with them; the immense open cutting also collects large quantities of surface water. To remedy this state of things a pit has very properly been partly sunk to the dip; and if continued a little deeper, to the iron ore, no doubt the mine could be worked to much greater advantage; but unfortunately the sinking—as I believe in misapprehension of the true nature of the deposits through which the pit has hitherto been carried down—has been suspended, and a drift or heading has been driven backwards (that is to say, southwards) from the bottom towards the old workings at the crop to intersect the ore, and thus ascertain its position. It is doubtful, however, whether this heading is not a pure loss of time and money. The truth is, a bed of black shale of the Permian period, immediately overlying the iron ore (which is also of Permian origin) having proved thicker than was expected, and being mistaken for the coal shales, has been the cause of the sinking being abandoned, under the impression that the coal measures would have to be passed through, and that the depth would, consequently, be very great.

That the shale alluded to cannot be coal shale is proved by the circumstance that the Millstone grit and Farewell rocks interpose between the limestone and the coal measures, and are known to underlie the latter in this district; and in a neighbouring mine, where the coal measures really do crop up and dip rapidly, a drift is actually driven through them and under the hematite, and all the Permian series above it. Besides, the true outcrop of the coal measures is well ascertained to occur about 1 mile to the north of this place, in regular succession with the Farewell rocks. The shale which has been thus erroneously taken for coal shale is of blue colour, and contains small nodules of iron ore and pyrites thinly interspersed through it, and this, probably, caused the mistake.

The explanation of the thick measure of Permian shale is to be sought in the form and limited size of the basin. A pit is now being sunk by the Cae Sais Company, a little further to the dip, or north, than the Mwyndy Company's Pit alluded to above, in which the beds are distinctly seen dipping from north to south, the reverse of what is observed in the Mwyndy Pit, where the inclination is from south to north. This inconceivable proves that the trough, or deepest part of the basin, lies in a direction east and west, somewhere between the two pits; and as the Mwyndy Pit must, consequently, be very nearly in the centre of the trough, it follows, as a matter of course, that in so circumscribed a basin the measures must necessarily be thick in the centre, thinning out to the edges; if this is so, and a careful examination of the ground will conclusively prove it, the Mwyndy Pit should be at once continued to the iron ore, and the heading southwards abandoned. It also follows that the Cae Sais Company will be enabled to work the whole of their ground lying to the north of their pit; nor need they fear drawing the water from the Mwyndy works, as that element has an unconquerable objection to running up hill. The following sketch will serve to illustrate my meaning:—



CYLINDER FOUNDATIONS.

SIR.—Your correspondent, in last week's *Journal*, who signs himself a "Sinker," has found a "mare's nest." But to relieve him from further anxiety on this point, I may inform him that, in my letter in the *Journal*, Nov. 27, 1847, I stated that "Cylinders had been used for sinking shafts through running sands." But, up to the time of my bringing this subject before the engineering world, no cylinders had been used for the purpose of constructing coffer dams for bridge foundations for crossing rivers. But as soon as my idea on the construction of cylinder coffer-dams was made known, the late Mr. Brunel adopted it at once for laying the foundation for the pier of the Saltash Bridge, for the Cornish Railway. I believe the depth of water was 86 feet. But, perhaps, "Sinker" will inform us the name of the place where the cylinders were used forty years since to go through this 20 fms. of quicksand and mud? I should not mind going a little out of my way to see this phenomenon of 20 fathoms of quicksand and mud.—26, Throgmorton-street, April 12. GEO. SHEPHERD, C.E.

THE PROFITS OF GERMAN MINES.

SIR.—In the *Journal* of Jan. 14 there appears a communication on the profits of German mines, which is, particularly as regards the numbers stated therein, erroneous. By inserting, therefore, the subjoined you will oblige, VON KRUG, Chief Officer of the Prussian Mining Department, Board of Trade and Commerce. Berlin, March 31.

Under the title "The Profits of German Mines" an article is found in the *Mining Journal* of Jan. 14, which relates to the small profits of mines, forges, and other industrial works belonging to the Prussian State. The net actual profits realised in the ten years from 1853 to 1862 inclusive are, after deduction of the expenses of administration, computed only at 894,820 thalers, so that the capital immobilised in these establishments appears to realise a return of no more than 1.9 per cent. per annum.

As far as it is possible to judge from the few numbers stated in this report, it seems that the forges only are taken into consideration, the profits of which are, indeed, not very favourable. The sale of these establishments has, however, been intended for a long time, and some of the smaller and most unprofitable ones are already sold, while in the meantime the others must be kept in a good working order, and, in consequence, require large expenditures. With regard to the mines and other industrial establishments belonging to the State the results are quite different. If we com-

pound these and the forges we find, on the basis of the official accounts from 1853 to 1862 inclusive, as total receipts an amount of 104,386,563 thalers against a total expenditure of 85,178,518 thalers, so that the profits are 19,218,045 thalers. It is, however, necessary for an accurate calculation to deduct still from this sum 2,106,769 thalers as expenses of administration at the superior offices, so that the net profits are reduced to 17,106,295 thalers—i.e., still more than nineteen times the amount of the sum stated in the above-mentioned article. The capital immobilised in all these establishments amounted to 15,093,352 thalers to Dec. 31, 1862, and profits, therefore, have been realised at the rate of 11 per cent. per annum. The receipts of the mentioned works belonging to the Prussian State amount in 1863, as the official accounts refer, to 12,538,313 thalers, the expenses to 9,597,405 thalers, the profits, therefore, to 3,140,908 thalers, and if we admit a sum of 150,559 thalers for expenses of general administration, the net profits are found to be 2,990,348 thalers, or 20 per cent. per annum of the capital immobilised to Dec. 31, 1862, which is, evidently, by no means a meagre result.

OFFICIAL SUPERVISION OF METALLIFEROUS MINES.

SIR.—No doubt if an Act for the official supervision of metalliferous mines, as you mildly designated Lord Kinnaird's Inspection Act, is passed as all, that of which you published an abstract, in last week's *Journal*, is about as fair to the miners as could be expected; but the question is, do the metal mines want Government inspection in any shape, and if any amount of inspection possible in England cause the metalliferous mines to live a day longer than he does under existing circumstances? We know metal mining is very different from coal mining, and especially for this reason:—In coal mining the mineral worked is deposited regularly, and practical men can tell as well in what way it will probably be found as a seaman can tell that by steering in a certain direction he will reach a given point—in both cases the only errors likely are errors of calculation. The Government inspector of each district is, therefore, able to decide pretty well, if he be a practical man, how the coal should be worked, and he also knows what kind of accident is most likely to occur in each district. All this is decided by merely knowing the general nature of the strata. But in metal mines there are no strata, and the lodes occur just where the only way of finding them being to drive in the direction you guess they will be found, if you do not find them drive in some other direction, and so on—guess and guess until you find the lode, taking care when you find it to keep it to it, that it may well pay you for all your bad guesses. This is really how Cornish mining is carried on—men acknowledge the truth of "where 'tis there 'tis," and all might just as well acknowledge it, as none of them have proved it nature. I know many miners who are as to how lodes are to be found, but they all work on the same system of trial and error, and I do not see that those with theories find the lodes any more than those without. I should expect Capt. Francis Pryor, and I don't think he has any theory, to find a lode quite as quickly as Mr. Nicholas Ennor, who has several, and is the same with all other mine agents—they mine by guess and not by science. Put the mines in the hands of scientific men, and see how dividends would go down.

Again, if we are to have inspectors, who are they to be? Surely, not School of Mines men, for they would ruin all the mines in the kingdom in a couple of years; nor could we not take mine captains, because one can say that any one of them is no better than his fellow that he should be set to govern them, and tell them how to work. What would be the use of sending Mr. Robert Hunt, Dr. Percy, or Prof. Tyndall, to tell Charles Thomas, James Richards, or Francis Pryor which way and how to drive their levels? It would be absurd. Prof. Tyndall would tell them that "there is sufficient power in a woman's tear to move the world," and would order the wheels to be altered accordingly. Dr. Percy would order all miners to give first attention to the calculation of the copper ore standard, and to employ any latest time in searching for ore. And Mr. Robert Hunt, believing in the "poetry of science," would require the fine arts to be considered in all mines, and that in the appointment of mine agents preference should be given to those who can write their reports in his own inimitable style:—"In the 50 east 3 fms. have been wrought; the ore's somewhat better than before. The 70 west has really come to nought, or else we might have been in it more. Our dressing operations are going on well! we've 80 tons already weighed, and shall be able Thursday next to sell 3000, worth, as I last expressed." Now, although these gentlemen are no doubt properly selected for a London School of Mines, I respectfully submit that in the arrangement of the details of mining works Cornish mine agents should not be required to submit to their dictation. Almost the only person besides the director, Sir Rodolph Murchison, of which the Secretary of Mines is not as a practical miner in Mr. Warrington Smyth, and to him the Cornish mine agents decidedly object, because he was educated in the German mines and mining authorities than in the English, and consequently may be supposed to be far too favourable to German customs. I do not see where inspectors are to be found, and therefore say "let enough alone." The miners' health and condition is admitted by the Report of the Royal Commission to be gradually improving, therefore do not check the improvement by providing official supervision.

WHEEL BULLER, AND ITS MANAGEMENT.

SIR.—Of late there have been several remarks on Wheel Buller in the *Journal*. Your paper being read by, I doubt not, all who have access to that mine (many of whom reside far from it) induces me to trespass on your good nature, and to ask for space for the following. It is a pity in mining that the agents do not put before their employers schemes and estimates for the development of their property: were they so to do, the adventurers could before hand discuss and determine on the course to be pursued; then a meeting of adventurers would be the farce it now too frequently is. The property of joining Copper Hill to our set has been mooted. I, for one, think it will be time enough for us to take this into consideration when the adventurers of Copper Hill abandon their mine. With regard to Old Buller, it seems to be forgotten that it already is in our set, and that a gentleman of Redruth, seven years since, had proposed to take 120 fms. west of the old engine-shaft, which was a very good proposition, the following are facts:—1. The Old Buller shaft is very crooked and very bad.—2. That a large lode of low-price copper is still standing, which would pay well if the mine be worked in a miner-like way.—3. That there exists in the bottom of the mine a good gossan. If this be the case, does it not indicate another deposit of ore, either below or in the neighbourhood?—4. Seek, and ye shall find. Relative to Old Buller Mine, I will ask two questions:—1. Are there any side lodes near?—2. Is it probable that, like our mine, in the east it possesses a tin mine?

Now, as a change in the management has already taken place, I submit the following plan (we must bear in mind that our mine is cross-cut to the north boundary). To the south boundary we have not cross-cut, therefore we have what lodes we possess to the ground. Why not set a good cross-cut in the 80 at Hooking's cross-cut to some contractor for, say, some 200 fathoms south? Surely some enterprising man would gladly take it. Another cross-cut, as long and as deep (or deeper), in the western part of the mine; another cross-cut in the eastern part of the mine at the 100 fms. level, for 300 fathoms long; I say, would not this be right under Old Wheel Buller? If so, would it not drain it, and we would work it as a dry mine—a mine which would cost no water charge? I have here proposed 700 fms. of cross-cut: I do not know what it would cost, but suppose 6l. per fathom—that is, some 42,000 l. on the new scheme, and would add, I am convinced, fifty times that amount in value to the mine. The advantages of these cross-cuts would be:—1. To lay bare and show us what lodes we have within that distance.—2. To drain all the lodes we found, and enable us to sink shafts with great speed and cheapness, seeing they would be dry.—3. The agents could better decide on the value of the lode; for if they could see its nature at the bottom of the underground they could judge it much better than by simply seeing the back of the lode.—4. Cross-cutting makes virtually several mines into one.—5. Our agents would know where the shaft should be placed to fork the Old Buller Mine. To do this, we will say, will be a work of time: my answer is, it should have been commenced many years since, and the sooner it is commenced the sooner it will be done. Had I been lord I should have pressed it, and on this condition I would for the time take half a mile better late than never.

I learn that many years since, a cross-cut was commenced south, and stopped when they were afraid of drowning the mine. Some people are more afraid of a drowning than they are of something real. Read the following, and then judge if any cause for fear exists. Many years since the inhabitants of a village in Switzerland lived in a sense of security. One day they were told that themselves and tribesmen were being swept away without a moment's notice. They found a wall of ice across it, and the danger arose. They went up the valley; they found a wall of ice across it, and the danger arose. They went up the valley; they found a wall of ice across it, and the danger arose. They went up the valley; they found a wall of ice across it, and the danger arose.

I am told that Wheel Buller lodes made rich up to the cross-course, and that they have never yet been discovered on the eastern side of the cross-course. I should like to see, if there is bold enough to say that they are not in the cross-course, that they be the case, and the western cross-cut (which I have proposed) discovers them, and Buller will doubtless again be as valuable a copper mine as it has been. At Wheel Buller they have cross-cut north to the boundary; let them try cross-cutting south to the boundary, and see what that will develop. Where are the Wheel Buller lodes?—1. Seek, and ye shall find.

It is yet a few weeks to the account, meanwhile let the adventurers reflect on what I have said, and if it seems to them good let them act upon it. EKEST YVES, Penzance, April 10.

HOW SOME SLATE COMPANIES ARE MANAGED.

SIR.—I trust you will allow me to make the following statement respecting the management of some slate quarries in Wales, and the way in which English capital is occasionally wasted. The first step is to purchase a grant, or lease, of slate ground in Wales, say, for 100l.; get a few shares on the property, and then run up to London, and assert that the value of the pieces of paper cost, say, 5000l.; but to prove your confidence in the value of the would-be quarries, you will generously accept 5000l. in cash and the like amount in paid-up shares. With these and other flattering promises, doubtless two or three honest gentlemen will be induced to embark in so valuable a concern, and to bring the company before the public, with all manner of letters after their names, and Act, appoint directors, with all manner of letters after their names, and power to add to their number. Then comes the nominating of solicitors, bankers, engineers, secretary, local manager, purser, and working agent. To look at the son would ask what are all these good for? The answer is at hand.—To look at the interest of the shareholders. A good thing, too. And now let us take a look at the mentioned, depending entirely on the shareholders. And now let us take a look at the

high level, producing good work for the winze 184. per fm. The lode in the stope above this level is worth 104. per fm. The lode in the winze sinking below the 160 east is from 3 to 4 ft. wide, worth 151. per fathom. The lode in the stope above this level is worth 104. per fm. The lode in the winze sinking below the 90 east is 4 ft. wide, and worth 151. per fm. The lode in the stope above this level is worth 104. per fm. The lode in the 90 west is 2 ft. wide, and yielding tinny work—a most promising lode.

WHEAL IDA.—F. C. Harper, April 11: The sinking of the engine-shaft continues to progress favourably, through very congenial strata, consisting of light coloured killas, traversed by branches of quartz, mixed with mudstone, and spots of copper and silver-lead ore. The water is slightly on the increase as we proceed in depth. The engine-shaft is now at a level of 104. per fm.

WHEAL KITTY.—W. Polkinghorne, B. Dyer, April 8: In the 82, driving west of Holgate's shaft, two men are making good progress. Fryor's lode, in the 65, driving west of new shaft, is 4 ft. wide, and worth for tin 164. per fathom. In the 65 fm. level, driving east of shaft, the lode is 3 ft. wide, and worth for tin 71. per fm. In the 54, driving west of shaft, the lode is 4 ft. wide, and worth for tin 121. per fm. In the 44, driving east of shaft, the lode is 2 ft. wide, and worth for tin 81. per fm. In the 44, driving west of shaft, the lode is worth for tin 64. per fm. In the 44, driving east of shaft, the lode is worth for tin 71. per fm. In the 24, driving east of shaft, the lode is worth for tin 71. per fm. In the 14, driving west of shaft, the lode is small, and not to value. Nothing worthy of notice has occurred in any part of the mine since our last report.

WHEAL MARGERY.—R. James, Wm. Rogers, April 13: In the 149, east of the American shaft, the lode is producing tonnes of copper ore. In the 142 west the lode is worth 91. per fm. In the 132 east the lode is worth 41. per fm. In the 123 west the lode is still improving in appearance, and yielding a little ore. We are daily expecting an improvement, as the stope in bottom of the level above which is worth 121. per fm. The lode is only 5 fathoms before this end. In the 122 east the lode is worth 61. per fm. The lode in the 122 west, at the 122 east, is worth 41. per fm. The lode in the 110 east has just passed through a large cross-course, which is a pity, as the lode is very good, and we shall come to find it; this is the further level east, and the only one in which the cross-courses has been seen, so we shall be anxious to see the lode to the east of it. The stope throughout are yielding the same as last week, but not so much as usual, or during the last two months.

WHEAL MARY ANN.—F. Clymo, J. Harris, J. Stevens, April 13: The stope and pitches are producing much as usual. We sampled on Monday two parcels of lead ore—No. 1, computed 63 tons; and No. 2, computed 20 tons, to be sold on the 17th inst.

WHEAL NORRIS.—J. Andrews, April 8: At our setting to-day the following bargains and pitches were made: The lode in the 110 east of the 110 east, we sell cross-cut to find it; this is the further level east, and the only one in which the cross-courses has been seen, so we shall be anxious to see the lode to the east of it. The stope throughout are yielding the same as last week, but not so much as usual, or during the last two months.

WHEAL SITHNEY AND CARMEL.—W. H. Martin, W. Chappell, April 13: The flat-rod shaft is down 10 fathoms 4 feet below the 110, where the lode is 2 feet wide, composed of quartz, pyrite, and iron ore, and yielding occasional stones of tin; in the same level east of the lode 10, we find a small cross-cut to find it; this is the further level east, and the only one in which the cross-courses has been seen, so we shall be anxious to see the lode to the east of it. The stope throughout are yielding the same as last week, but not so much as usual, or during the last two months.

WHEAL TREMAYNE.—B. Williams, J. Williams, April 12: At the new engine-shaft in the 183 east, the engine lode is 16 in. wide, yielding stones of tin in places, and presenting a more kindly appearance. In the 145, west of the same shaft, the lode is 16 in. wide, yielding stones of tin, and yielding occasional stones of tin; in the same level east of the lode 10, we find a small cross-cut to find it; this is the further level east, and the only one in which the cross-courses has been seen, so we shall be anxious to see the lode to the east of it. The stope throughout are yielding the same as last week, but not so much as usual, or during the last two months.

WHEAL TRENKLE.—T. Jennings, April 13: In cutting of the watercourse for the large water-wheel we are now putting in we came across our south lode; it is running parallel with a large elvan course; the lode is about 4 feet wide, with a leader of tin on the footwall 10 inches wide, very rich for tin. We shall not do anything to this lode until we get our large wheel and stamps at work; this lode has every appearance of being a productive one when further developed. In clearing up Highbourn shaft, under the 16, we are still in the old workings, and down to water; the old men's rubbish is still producing good work for our stamps. Now the dry weather has settled in, I hope the water will soon abate, to enable us to get at the bottom of the old men's workings; the lode in the west end of shaft, at the 15, is 5 feet wide, worth 61. per fm. The lode in the 10, east of shaft, at the 15, is 5 feet wide, worth 151. per fathom. We are looking well. Two of our directors and the secretary have visited the mine this week, and are well pleased with the prospect of the mine.

WHEAL UNION.—T. Goldsworthy, April 7: Putrock Setting: The flat-rod shaft to sink under the 81, by nine men, at 481. per fm. The 76 to drive east of the flat-rod shaft, by six men, at 61. per fm. The 76 cross-cut to drive north of the flat-rod shaft, by four men, at 11. 156. per fm. The 20 cross-cut to drive north of the flat-rod shaft, by two men, at 261. per fm. The 60 cross-cut to drive north from East Cam Brea, by six men, at 161. per fm. The winze to sink below the 20, by four men, at 51. per fm. The engine-shaft to sink below the 40, by nine men, at 801. per fm.

— April 12: In the flat-rod shaft the lode is from 2 to 3 ft. wide, producing stones of ore, but not to value. We are driving the 76 cross-cut north on the western part of the cross-course, which will intersect the Turnpike lode about 30 fathoms below the present bottom of Moyle's shaft. In the winze sinking below the 20 the south lode is 1 foot wide, producing 1 ton of tin of copper ore per fm. We are sinking the old engine-shaft perpendicularly below the 10, to intersect the lode.

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WHEAL TRENKLE.—T. Jennings,

MINING NOTABILIA.

(EXTRACTS FROM OUR CORRESPONDENCE.)

CASTELL CARN DOCHAN returns gold for the week, 4½ ozs., from 1 ton of ore; making a total of 200½ ozs., from 42½ tons.

ST. AGNES.—A circumstance occurred here on Monday which was the cause of rejoicing to more than a dozen poor working men. For the past two years several London gentlemen, with their agent Capt. Richard Pryor, have been working South Kitts Mine, and, having during that time laid open several valuable lodes, of more than ordinary promise, thought it desirable to secure an adjoining piece of ground, known as GOGGIN'S, formerly worked by a Limited Company. Upon enquiry it was found the men had not been paid for their labour previous to this act being revoked. The South Kitts gentlemen immediately called these men together, and after conversing with them for some time presented the poor fellows with a very handsome sum of money, to be equally distributed, which they kind pastor, the Rev. Mr. Vawdry, undertook to do. They were afterwards entertained with a good dinner, and before parting heartily drank success to those who, from pure good feeling, had so gladdened their hearts.

WHEAL UNITY.—The lode in the flat-rod shaft still continues worth 1 ton of ore per fathom; this looks well for depth. Two or three important points are expected to come off shortly, the result of which will lay open a great deal of tribute ground, and as the shaft is going down in a course of ore, every fathom sunk will add materially to the reserves of the mine. The mine is steadily improving.

WHEAL MARY HUTCHINGS (Plympton).—A very good discovery has been made in the deep adit level of a valuable tin lode, producing some large stones of ore, worth at least 80 per cent., in a beautiful channel of ground, driving at 30s. per fm. Further important discoveries are shortly anticipated.

GOTHIC MINE.—The discovery recently made in the adit appears to hold on very well; this is an important thing, as the back over this end is a good height, between 20 and 30 fms., which increases on going westward. All the great mines of the district have taken their value from discoveries made in the day-levels going into high ground. At Goginan, 250,000l. worth of lead and silver was taken down, giving 60,000l. profit, from the adit in driving from the old mine eastward, and we expect the Gothic ore ground will prove as extensive.

EAST LOVELL.—Two tons of tin have been raised and dressed from the sinking of the shaft alone in one week—from the 5th to the 12th inst.—equal to 8 to 10 tons per month, which leaves a good profit. No stronger contradiction to the late agent's and other unfavourable reports than the above fact, which can be corroborated by any shareholder sending a disinterested agent to inspect the property.

EAST GUNNISLAKE.—A good course of ore has been cut through a freak of nature, the ore lying in a floor; it is to be hoped it may continue, though reports say it has already cut out.

NORTH DEVON.—The 40 tons of ore, the produce of Jan. and Feb., realised 12½ ds. per ton. The quantity raised in March is estimated at 30 tons, so that the next two months' sale will be from 50 to 60 tons—a great increase on the last sale. The mine is looking well, and from present appearances likely to yield good profits.

NORTH POOL MINE.—The water is in fork, or drained to the 24 fathom level, on Ballarat middle, south, and main lodes, all of which are intersected in this level by a cross-cut. It is not intended to unwater the main lode any deeper, as no communication exists below this level. Ballarat middle and south lodes are (with trifling operations in the 24 fathom level) standing whole throughout the entire set. The water was in fork last Friday, so as to examine Ballarat middle and middle lodes, which are found to be rich for copper ores; and after the necessary machinery is fixed to the main rods in the Ballarat shaft for draining the middle lode returns of ore will commence; and from the reports read at the meeting, no reasonable doubt can be entertained of North Pool proving an unquestionable success.

HARWOOD.—A discovery of much importance has just been made in this set, at Trough Low Level, where a north and south vein has been cut, with fine lumps of pure galena, from 1 lb. to 23 lbs. in weight, lying embedded in a beautiful soft mineral. The vein is whole for a mile in length, and the level is being driven north in ft. at 45s. per fathom, to cut six east and west veins, worked formerly in a shallow level, 15 fathoms above the present one. The mine at Scar Head is worth 1½ ton of lead ore per fathom, and it is believed that the working is not upon the old vein, but another, as the ore is of an entirely different character. It is very probable the old vein is running nearly parallel, and only a few fathoms off.

RATING OF METALLIFEROUS MINES.—(From a Correspondent.)—Immediately upon the reassembling of the House of Commons, after the Easter recess, the Union Chargeability Bill will be committed, and Mr. Cave, the Member for New Shoreham, will move the insertion of a clause rendering all mines liable to rates for relief of the poor. It is considered that the Government are not likely to oppose the insertion, and the ironstone miners of the North anticipate that a defined system of rating mines will be preferable to the unsatisfactory and uncertain system now practised; but that the bill will pass at all does not seem very certain, since Mr. Ferrand, the Member for Devonport, will move "that poor-rates in aid of manufacturing wages have been and are still systematically levied in the manufacturing districts on agriculture, with the sanction of the Poor Law Board, whereby the burdens on land are grievously increased, and the worst features of the old Poor Law are maintained, that the Union Chargeability Bill will greatly extend the area of this unjust taxation, impose ruinous burdens upon agriculture for the benefit of manufacture, and create serious discontent." There is, however, the chance that Mr. Ferrand's motion will be regarded as to a great extent met by Mr. Cave's, and that it will be sought to lessen the evil by laying a heavy tax upon metal mines. At all events, the subject should have quite as much consideration in its present form as if it had been introduced in the shape of a Metalliferous Mines Rating Bill.

IMPROVEMENT IN PUDDLING FURNACES.—At the Albion Works, West Bromwich, Mr. Welsh has adapted Wright's patent moveable fire-bars to his puddling-furnaces. One furnace has been worked fourteen turns with the new bars, and during this period, according to the testimony of Mr. Welsh and the working puddler, with profit and advantage to both.

DETECTION OF FIRE-DAMP IN COLLIERIES.—Applying the discoveries of Prof. Graham in connection with osmose force, Mr. G. F. Ansell, of the Mint, has invented a simple apparatus, which promises to indicate the accumulation of fire-damp before it becomes dangerous, and either to give the miner notice of it, or to convey that notice to the surface by its connection with some simple electro-telegraphic arrangement. Mr. Ansell proposes to fill a vessel (provided with the necessary diaphragm) with ordinary atmospheric air, and so place it in the air to be tested, that when the fire-damp enters by endomose force, a lever shall be acted upon, and a bell rung. Mr. Ansell's invention is practically identical with, though we should think it would be much less sensitive and open to much greater objection than, Elie de Beaumont's audible barometer, suggested for the same purpose, and described in the *Mining Journal* of Jan. 24, 1885, but whether either the one or the other would be of any great importance for preventing explosions in mines, although it may slowly prove "an unfailing indicator of the presence of the collier's deadly enemy—fire-damp," has yet to be ascertained.

THE COPPER TRADE.—Mr. J. Pitcairn-Campbell, of Liverpool, reports—The large transactions reported in my last have been followed by a comparative cessation of demand, and the market is flatter, being influenced by the general depression in trade. Holders, however, continue very firm. The imports of copper ore, regulus, barilla, and bars from all parts into Liverpool and Swansea, during the first three months of this and three previous years are as follows:—

	Ore.	Regulus.	Barilla.	Slab.	Total weight fine.
1885	17,231	6310	50	2436	8914
1884	16,914	6588	60	3323	9803
1883	19,034	4313	79	3024	8415
1882	20,411	8992	245	2918	10,778

Stocks of copper produce in first and second hands are—

	Ore.	Regulus.	Bars.
Liverpool	1022	715	2558
Swansea	1452	1157	572

Arrivals during the fortnight from the West Coast have been:—"Elizabeth Martin," Tons, 55 tons bars; "Chilian," Colon, 20 tons ingots. Sales since my last have been:—Mar. 31.—500 tons ore, at Swansea, "H. Rankin" £ 0 17 2 per unit.

April 5.—315 tons regulus, on spot here, ex "Calabar" 0 17 0
 " 5.—10 tons bars, on spot here, ex "Llama" 84 0 0 per ton.
 " 5.—400 tons ore, { out of second hands } 0 17 0 per unit.
 " 5.—206 tons regulus, { to arrive, per "Cuzco" } 0 17 0
 " 7.—300 tons regulus, at Swansea, ex "Deerslayer" 0 17 0
 " 11.—10 tons Urmenia ingots, ex "Chilian" 90 0 0 per ton.
 " 11.—55 tons barilla, ex "Deltira" 0 18 0 per unit.
 Quotations are 17s. per unit for ore and regulus, 32½, 10s. to 32½ per ton for bars, and barilla 15s. per unit.

TIN.—A considerable business has been done in Straits, at an advance of 40s. to 50s. per ton, and the market closes steady at 89½, 10s.

DISCOVERY OF AN ANCIENT CITY.—From our South Pacific exchanges we learn that the remains of an ancient city has been discovered in the department of Osorno, in the South of Chili, supposed to be either the rich mining city of Ponce de Leon or that of Los Césares, also fabulous for its wealth.—*Panama Star*.

LIABILITY FOR FOULING A STREAM.—A district Board of Works, acting under the provisions of the Metropolitan Local Management Act, in the execution of sewerage works in their own district, fouled a stream passing through their district, and thereby polluted the water of such stream beyond their district, and created a nuisance upon lands lying without their district. The question was, whether an action at law could be maintained in respect of the injury; or whether the remedy was for compensation under the Act. The Court of Exchequer Chamber (reversing the decision of the Queen's Bench) held, in the case of *Cator v. the Lewisham Board of Works*, that an action would lie.

ORTH'S PATENT CHAIR, OR ARTICLE OF FURNITURE.—The specification of this invention, just filed by Mr. Henry, the patent agent, Fleet-street, describes a chair or other seat combined with receptacles in such manner that a person seated thereon may open and close the receptacles and place articles therein, or withdraw them therefrom without rising or removing from his seat. The receptacles are fixed in a chamber or frame attached to the frame work of the chair below the seat in the space usually left vacant between the legs. They are divided into compartments, and preferably closed by spring fastenings. The chair may be adapted with great advantage as a nursery chair, being in that case fitted with arrangements for receiving the clothes and various articles required in tending infants, so as to avoid the necessity of the nurse or mother rising and leaving the children, in order to get at the desired wardrobe or from elsewhere.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, APRIL 13, 1885.

COPPER.	Best selected.	9½ d. 4 s. d.	BRASS.	Per lb.	
Tough cake	98 0 0	—	Sheets	3½ d. —	
Tin	90 0 0	—	Wire	3½ d. —	
Burra Burra	95 0 0	—	Tubes	3½ d. —	
Copper wire	0 1 0	10½			
ditto tubes	0 1 1	—			
Sheeting & bolts p. ton	95 0 0	96 0 0			
Bottoms	100 0 0	—			
Old (Exchange)	91 0 0	—			
IRON.	Per Ton.		STEEL.	Per Ton.	
Bars Welsh, in London	7 7 6	7 10 0	Swedish, in bags (rolled)	15 10 0	15 16 0
ditto, to arrive	7 7 6	7 10 0	" (hammered)	16 0 0	16 10 0
Nail rods	8 10 0	—	ditto in faggots	16 0 0	16 10 0
" Stafford, in London	8 15 0	9 15 0	English, Spring	18 0 0	23 0 0
Bars ditto	8 15 0	9 15 0	Bessemer's, Engineers Tool	44 0 0	—
Hoops ditto	9 15 0	10 10 0	" Spindle	80 0 0	—
Sheet, single	10 7 6	11 0 0	QUICKSILVER (per bottle)	8 0 0	nom.
Pig No. 1, in Wales	4 10 0	—	SILVER.	Per Ton.	
Refined metal, ditto	4 5 0	5 0 0	Foreign	30 0 0	—
Bars, common, ditto	6 15 0	7 0 0	To arrive	30 0 0	—
Do, merchant, Tyne or Foss	7 10 0	—	SILVER.	Per Ton.	
ditto, railway, in Wales	6 12 6	7 0 0	In sheets	34 10 0	—
ditto Swed. in London	12 0 0	—	TIN.		
To arrive	12 0 0	—	English, blocks	97 0 0	—
Pig, No. 1, in Clyde	2 13 6	2 18 6	ditto, Bars (in barrels)	98 0 0	—
ditto, f.o.b. Tyne or Foss	2 9 6	—	ditto, Refined	100 0 0	—
ditto, No. 3, f.o.b. do.	2 6 6	2 5 6	Banca	95 0 0	—
Railway chairs	5 10 0	5 15 0	Straits	90 0 0	—
" spikes	11 0 0	12 0 0	TIN-PLATES.		
LEAD.			IC Charcoal, 1st qua. p. bx.	1 7 0	1 10 0
English Pig, ordn. soft	20 5 0	—	IX Ditto 1st quality	1 13 0	1 16 0
ditto (WB)	21 15 0	—	IX Ditto 2d quality	1 5 0	1 7 0
Ditto sheet	20 10 0	—	IX Ditto 3d quality	1 11 0	1 13 0
Ditto rod lead	22 0 0	23 0 0	IX Coke	1 1 6	1 2 9
Ditto white	26 0 0	27 0 0	IX Ditto	1 7 6	1 8 9
Ditto patent shot	23 0 0	—	Canada plates	13 10 0	—
Spanish	19 0 0	19 5 0	In London; 30s. less at the works.		

REMARKS.—The Metal Market continues to present but few features of interest, and though from week to week we are anticipating an improved aspect in the metal trade, yet we are repeatedly disappointed by finding that the desired improvement delays its appearance, and leaves the metal market still in a state of most unsatisfactory dullness and inactivity. A few more orders, however, from time to time make their appearance, and a slight degree of activity takes place in some descriptions of metals occasionally; but matters again relapse into their former state; nevertheless, the slight movement which has taken place in some metals during the last week or two augurs favourably for the future, and leads us still to hope that gradually the metal trade will recover itself from its present lethargy, and once more resume a condition of vigour and activity. It is remarkable that, notwithstanding the present lowness in price of metals generally, and the easiness of the Money Market, there is no appearance of any speculative feeling in metals, as we should have expected that, under these circumstances, something of the sort would have arisen; and if this had been the case, a stimulus would have been given to the trade, which would be very desirable. Buyers also are very chary about giving out orders, though this arises, probably, more from the state of the markets abroad than from any expectation that prices will be lower.

COPPER.—The market is again somewhat firmer, although the demand is not by any means large; manufactured may now be quoted 95½ to 96½; tough cake and ingot, 90½; and Barra, 95½.

IRON.—In Staffordshire the Quarterly Meeting of the Ironmasters commenced at Wolverhampton, on Wednesday, under circumstances more embarrassing to all engaged in the iron trade than has ever been experienced. After nearly five weeks of the Lock-out, it was hoped that the resolution of the masters to re-open their works would have smoothed down every difficulty, and that the operations of the trade all over the district would have been resumed as usual on Monday. The attitude now assumed by some portion of the men has, however, dispelled these anticipations, and at the meeting the prevailing feeling was that of doubt, uneasiness, and anxiety relative to the future of the trade. In fact, the impression appeared to be that even though the present difficulty is patched up, another is impending, that fresh demands will soon be made by the men, and that the real battle between them and their employers has yet to be fought out. The attendance of the meeting was comparatively small, but under the peculiar circumstances of the case it will be readily understood that the business transacted was nominal. It might have been expected that after so long a stoppage there would have been some flush of orders; but in that respect there is great disappointment, inasmuch as at the works where the men have gone in there are only just sufficient orders to keep them going. Though several of the ironworks have resumed operations, yet at very many others the men still refuse to return to their work unless the masters agree to the establishment of a Court of Arbitration, to which all disputes between masters and men may be referred, and thus rendering unnecessary both strikes and lock-outs. At present no arrangement is come to, and matter still remains in a very unsatisfactory state. In Welsh, makers generally have their books pretty well supplied with orders, and the specifications in hand will keep the works in regular employ. Quotations remain without any material alteration. For the week ending the 6th inst. the exports reached 2455 tons. In Swedish iron, present quotations are well maintained. In Scotch pig-iron, the market has undergone rather more fluctuation during the week. Early in the week warrants reached as high as 53s. cash, but from that point began to decline, and business was done at 51s. 9d. cash, and 52s. one month, but afterwards recovered to 52s. cash, and 52s. 3d. one month, and afterwards rose to 52s. 4½d. cash, and 52s. 7½d. one month, which latter prices remained at the last advices from Glasgow.

LEAD.—The market has become rather easier, and common English pig has been sold at 19½, 15s.

TIN.—An improvement in the price of Straits still continues to take place, and business has been done to some extent at a further advance; it may now be quoted at 89½, 10s. to 90½ cash, and there is evidently a still improved tendency in the market. Banca is held for 95½. The demand for English is only moderate, and may still be obtained at 3½, to 4½, under the fixed rates.

SILVER.—Although transactions have been by no means numerous, yet prices have still further advanced, and business has been done at both 19½, 15s. and 20½, on the spot; the latter may now be considered the quotation.

TIN-PLATES.—The trade has not improved, and prices continue low; both charcoal and coke plates are dull of sale.

STEEL AND QUICKSILVER. without change.

THE LIVERPOOL METAL MARKET—APRIL 13.

PIG-IRON.—Prices continue firm at 52s. 6d. cash, and not much business done this week, buyers being rather shy. We think the market will continue firm for a few weeks, and prices will probably touch 55s. to 56s.

MANUFACTURED IRON.—The Iron Trade is still involved in doubt and uncertainty. There is no iron to be got yet from North Staffordshire, and only in dribbles from South Staffordshire. The men are evidently bumptious, in consequence of the masters having suspended the Lock-out, which course they seem to consider a display of weakness on the masters' part. We fear we have not seen anything like the end of the Staffordshire trouble, but at present cannot venture on any decided opinion. A large proportion of men are on strike in Scotland, but we are not disposed to attach much importance to this movement, which we think will be of brief duration. There is no improvement to note in the Liverpool iron trade, either in price or demand. Your readers will see that the annexed list of exports is lighter than usual.

TIN-PLATES.—No great demand, prices remaining the same; cokes, 20s. 9d.; and charcoals, 24s. 6d. to 26s., f.o.b.—**TIN:** English is very dull; foreign, if anything, a little better, but trade in both limited.

SILVER. has rather improved the last few days, and is quoted at 19½, 10s. to 19½, 15s.—**COPPER** is decidedly improving, and we may look for better prices before long.

EXPORTS OF IRON, &c., FROM MARCH 27 TO APRIL 8:—	
Bar	2436
Boil	107
Hoop	139
Sheet	408
Pig	298
Railway	57
Plate	197
Angle	51
Swedish iron	6
Galvanised sheets	41
Knee iron	33
Nail sheets	20
Galvanised hoops	36
Tin-plates	37,650

IMPORTS OF IRON, ORES, &c., FROM MARCH 27 TO APRIL 8:—	
594 bags of copper ore.	2618 tons of sulphur ore.
200 barrels of copper ore.	960 tons of brimstone.
282 tons of copper ore.	2919 quintals of sulphur ore.
2776 bars of copper.	8 barrels of nails.
120 tons of copper.	11,825 ingots of zinc.
318 arns. of copper.	167½ tons of pig-iron (St. John's).
12 cases of ironware.	8 casks of ingot copper (Bancroft).
74 bags of silver ore.	2339 ingots of copper.
125 boxes of steel.	245 ingots of tin.
30,409 quintals of copper regulus.	96 cases of steel.
228 bars of iron.	605 cakes of spelter.

BIRMINGHAM, APRIL 13.—Bylands' "Iron Trade Circular" reports the quarterly meetings here and at Wolverhampton confirm the preliminary resolution that prices stand as in the previous quarter. An offer has been made of 500 foreign puddlers to the North Staffordshire works, at 25 per cent. less wages.

The MINING SHARE MARKET has not been quite so buoyant or active since our last; the settlement of the fortnightly account on Thursday, and the commencement of the Easter holidays on Friday, have affected the market generally, and we may not, possibly, look for any great change or increase in activity till the latter part of next week. On Monday next, we understand, the Stock and Mining Exchanges will be closed. West Street, 180 to 190; at the meeting, on Tuesday, the accounts showed a profit of 1235½, 18s. 4d. on two months' working, and a dividend of 1600l. (4½ per share) was declared, leaving 154½, 5s. 3d. in hand. The copper ore and on March 9 and April 6, to come to credit of next account, realised 5472½, 10s. 4d., besides which there will be a small parcel of tin. The mine is looking much the same, and the pitches yielding their usual quantity of ore. East Gunnislake shares have been largely dealt in, but not so firm, leaving off 2 to 2½. No report has been received at the office of the company up to this date (Thursday), but a telegram states that the lode sustains its value. Private reports value the lode variously from 300 to 1000 per fm.; and, as far as we can gather, the discovery is to the east of one or between two cross-courses, 60 fms. apart, where a long course of ore is expected, should the present discovery continue to be rich going east. West of the cross-course the lode has not yet been cut, and the point is watched with some interest and anxiety, though the ground plan, as it appears to us, is to prove whether this discovery holds east to the other cross-course; if it should do so it is impossible to overrate its value, while on the other hand it may prove a rich bunch or shoot of ore. The Grenville shares advanced this week to 4, and leave off 3½ to 4. The west is worth 15½ to 18½ per fm., with elvan in the side of the lode, which is considered favourable. Wheal Grenville, 3½ to 4; no change has taken place in the mine. East Caradon, 15 to 18½; in the 90 cross-cut the lode is cut through; it is 3 ft. wide, worth 15½ per fm., and the cross-cut being continued to see if the caunter is still before it.

East Lovell, 10 to 11; at the meeting the accounts, charging the company up to the end of December last, showed a balance against the company of 1516½, 11s. 1d., and a call of 16s. per share was made. One of the inspecting agents estimates the reserves in the mine at over 2000l.; and states, from present appearances, the returns of tin should be from 8 to 10 tons per month, without much reducing the reserves, and this would give a fair profit to the adventurers. The manager gave a different report, and his service have been dispensed with, as it was alleged to the meeting that his reports had not been truthful, and that he had of late greatly undervalued the mine, and its prospects generally. In answer to this, Capt. Burgan has published and circulated among the shareholders (who by this time must be in a state of bewilderment) the reports of four different agents to substantiate his own; and we refer to them, because among the number is one from Capt. Charles Thomas, of Dolcoath, whose very favourable reports, a few months ago, were noticed in this article. Capt. Thomas at that time led the shareholders to expect a rich and divided mine, and the change in his opinion, as expressed in the report now published, will take every shareholder by surprise, and serve the "beam" of whom there are said to be a goodly number. Wheal Buller, 3½ to 4; the 130 west is 3 feet wide, worth 12½ per fm.; the 70 east, on the north tin lode, 14½ per fm.; the 70 west, 14½ per fm.; the 60 west, 18½, 40 east, 12½; the 50 west, 4½. The pitches throughout the mine are looking very well; and good progress being made in driving the 80 north, at Hosking's. Carn Camborne, 26s. to 28s.; Clifford Amalgamated, 31½ to 34½; Cook's Kitchen, 6½ to 7; East Basset, 20 to 22½.

South Wheal Basset, 3 to 5; at the meeting, on April 4, the accounts showed a balance against the adventurers of 282½, 6s. 3d., and no call made. The engine-shaft is down 3 fms. 4 ft. below the 112, on Pyral lode, 3 ft. wide, producing occasional stones of copper ore, and very much improved in the last 2 fathoms sinking. The levels in the 75, 60, and 40 on Teague's lode, are getting parallel with the tin ground in Carna; part of Wheal Basset, and productive ground is expected to be laid open. Carn Brea, 6½ to 7½; East Russell, 3½ to 3½; Great Laxey, 16½ to 18½; Great South Tolgus, 1½ to 2; Great Wheal Vor, 30 to 31; Great Wheal Fortune, 3 to 4; Hallenbeagle, 3½ to 3½; Herodsfoot, 38 to 40; Main Valley, 5 to 5½; North Shepherds, 3½ to 4; North Treskerby, 2½ to 3½; Wheal Truscott, 1½ to 1½; Providence Mines, 30 to 32; Redmoor, 2½ to 4s.; South Condor, 2½ to 3, call of 3s. per share paid; South Croft, 14 to 16; South Grenville, 4s. to 6s.; South Lovell, 2 to 2½; St. David's United, 12s. 6d. to 15s.; Stray Park, 12½ to 13½; Tincroft, 14 to 15; Caradon, 7 to 8; West Chiverton, 59 to 61; West Tolgus, 6½ to 7½; Wheal Basset, 95 to 100; Wheal Chiverton, 5 to 5½; Wheal Croft, 40 to 40s.; Wheal Seton, 20½ to 20s. ex dividend of 5s. per share declared at the meeting; Wheal Trelawny, 19 to 20. Bedol-Aur, 4½ to 5½; the mine is said to be improving; there are 15 tons of lead for sale.

On Monday morning the mining world was somewhat startled by the announcement that Wheal Croft had been seized. Fortunately, the report was not true, but there was enough in it to cause alarm on the market and among the shareholders; and, as we believe the circumstances that led to it are unprecedented, we feel it a duty to enter into an explanation of them, especially as the property of the shareholders has suffered to them to a considerable extent. Before doing so, however, it will be necessary to observe that upon Wheal Croft upwards of 30,000l. have been spent, under a lease from the late Duke of Bedford, which expired on the 25th of March. On Saturday last the agent at the mine received a letter dated Wheal Croft, Saturday afternoon, April 8, 1885, from which the following is an extract:—"I have received orders from my superior to stop all workings in your mine at once, owing to the new lease having taken up the lease; and I trust you will not deliver material on Monday next, or permit any work to be carried on, either on the ground or at surface. It will be my duty to come here on Monday morning at six o'clock, to see that nothing is doing other than to lay the water out, which I think you may do until I receive further orders." Signed, Jos. PAUL. On Monday morning, of course, no notice of this was taken at the mine, but the electric wire had been in action, and rumour, with her hundred tongues, had created something of a panic in the London market, until explanations were afforded at the office, and the lease exhibited. Long before the old lease had expired, the committee obtained the promise of a new grant, the draft was approved, and the new lease, for 21 years, was signed by the Duke of Bedford, and the trustees of the late Duke, on March 20. The counterpart was delivered over to the Duke's solicitors, in London, who intimated that the lease itself would be handed over on payment of their bill of costs, whatever the lessees may have thought privately of this sort of proceeding, the costs were paid within a few days of the bill having been delivered, the bill itself containing this item:—"March 22: Attending on Mr. W. and Mr. H. Hitchens on their executing the counterpart set, and attending same, 13s. 4d." Yet in the face of this, and after the new lease was the actual possession of the lessees—that is, on April 8—such a notice was we have quoted in italics was delivered to the agent of the mine by the local agents of the Duke, and circulated far and wide, to the injury of the property of the company. We need hardly say, however, the works were never, in reality, suspended, and are now in full and vigorous prosecution under a new lease.

On the Stock Exchange there has been a moderate demand for Mining Shares during the week. The following quotations were officially recorded in British Mining Shares:—East Caradon, 15½; East Carn Brea, 3½; Great Wheal Vor, 30½; Herodsfoot, 38½; Great South Tolgus, 30½; Buller, 3½; East Gunnislake, 2½, 2½; East Lovell, 10½. In Colliery Mining Shares the prices were:—Kapunda, 3½; Yudanamma, 1½, 1½; Scottish Australian, 1½; Port Phillip, 1½; Yorks Peninsula, 1½. In Foreign Mining Shares the prices were:—St. John del Rey, 2½.

Mariquita, 3; Panulillo, 4; Val Antigua, 4; Cobre, 27; 27; Alamillo, 13; Montes Aures, 4; Vancouver, 31.

The South Cornwall Mining Company has this day issued its prospectus, by which a capital of 100,000*l.* is sought for the purpose of working an extensive set, containing twelve lodes of copper ore, near Tywardreath, and situated between the Par Consols and Fowey Consols Mines, each of which it adjoins. The company possesses the advantage of an influential directorate, of which some of the members, in consequence of their extensive knowledge of mines, and their connection with mining enterprises, are unusually well qualified for the office. It is stated in the prospectus that a large number of shares have already been subscribed, and that a good proportion of the applications have been received from persons residing in the locality of the mine. This is regarded as one of those opportunities for investment that rarely occur, and of which the mines adjoining that proposed to be worked by this company have during their history been such excellent examples. The property has been inspected and favourably reported upon by Captains Thos. Rich, Charles Merrett, Geo. Job, and Francis Puckey, all of whom concur in regarding it as "a good mining set for copper as the county will produce."

The Russian (Vyksounsky) Ironworks Company, with a total capital of 500,000*l.*, in shares of 20*l.* each, of which three-fifths is to be first issued, advertises its prospectus in another column of this day's Journal. The estate, which the company is to purchase, occupies 405,000 English acres, and is populated by 35,000 inhabitants; it is situated on the Oka, which is navigable to the Volga at Nijni Novgorod, and is within 66 miles of the Nijni Novgorod and Moscow Railway. An extensive ironworks is established at Vukasa on the estate, which has been in successful operation for a long period, the necessary plant and machinery being erected. The motive-power is obtained from 72 water-wheels and 15 steam-engines, and there are large numbers of blast, refining, and puddling-furnaces, rolling and wire-mills, laminating hammers, engine and boiler factories, foundries, nail factories, and brick-kilns. The present profits are about 70,000*l.* per annum, and the shares to be issued are equivalent to 7 per cent. preference shares thereon. It is expected that the Russian Government will concede a line from the Nijni Novgorod line to Riazan and Toula, which will pass through the estate. The company's interest will cease in 37 years, when, by means of a sinking fund, it is intended to return the capital in full.

The Wigan Main Arley Mine Coal Company has been formed at Manchester, with a capital of 30,000*l.* in shares of 5*l.* each, for the purpose of purchasing the fee simple of about 124 acres of excellent agricultural land at Lostock, near Wigan, together with the celebrated Orrell 4-ft. seam of coal, and the other minerals, &c., beneath. The coal is well known in all markets, and its superior qualities for house, steam, and coking purposes secure it a ready sale at the highest current prices. The estate, which is called the Moss Hall Estate, has the advantage, apart from its value in itself, of commanding about 2000 acres of the Arley Mine, adjoining which would have been opened up long since could the Moss Hall Estate have been purchased. The explorations already made show considerable freedom from faults. The directors are practically conversant with the coal trade, and resident in the neighbourhood, and calculate that after allowing for redemption of capital the profit will be equal to 80 per cent. The purchase money is fixed at 23,000*l.*, of which 2000*l.* is to be paid in cash, when the company is formed; 5000*l.* when the conveyance, &c., are signed; and the remainder by yearly instalments of 4000*l.* each, the balance bearing interest at 4 per cent. The property is admirably situated for conveyance of coal to market—the Lancashire and Yorkshire Railway running through the estate on the level, and offering facilities for the making of sidings. Every director qualifies himself, and no free shares exist. The prospectus will be found in another column.

The British, India, and Colonial Trust and Agency Corporation has published its prospectus for the first issue of share capital—100,000*l.*, in shares of 20*l.*—for which applications to the provisional committee may be made without deposit, the applicants being at liberty to decline the shares applied for (free of all responsibility), or take them up in the proportion which may be allotted. The object of the undertaking is to carry on an agency business similar to that now conducted by bankers, army agents, outfitters, booksellers, and other private tradesmen, and it is mentioned that this class of business is daily on the increase; and that against the difficulty of ascertaining with what private agency property has been deposited, the public would have the permanent security of a public corporation. It is remarked that the relations of profit to the capital proposed to be employed in a business of this character scarcely admit of being stated at a rate per cent., but that it may be confidently asserted that the commission charged upon such an amount of business as the corporation depends on would form, together with other sources of income, a remuneration so ample as to afford a very satisfactory dividend to every shareholder. The trustees are the Duke of Wellington, Lord Harris, and the Hon. Arthur Kinnaird, and the provisional committee includes some dozen names of gentlemen of the highest respectability and position.

At Redruth Ticketing, on Thursday, 2140 tons of ore were sold, realising 10,778*l.* 6*l.* 6*l.* The particulars of the sale were:—Average standard, 122*l.* 12*l.* 6*l.*; average produce, 6*l.*; average price per ton, 5*l.* 0*l.* 6*l.*; quantity of fine copper, 135 tons 18 cwt. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Per unit.	Ore copper.
Mar. 16.	2387	122 12 6	6 0	5 0 0	16 7 0	238 15 0
" 23.	3373	124 3 0	6 0	5 0 0	17 0	337 0 0
" 30.	3393	124 10 0	6 0	5 0 0	16 2 6	31 1 6
April 6.	3221	124 0 0	6 0	5 0 0	16 4	31 11 0
" 13.	2140	122 12 0	6 0	5 0 0	15 10 6	79 0 0

Compared with last week's sale, the decline has been in the standard 2*l.*, and in the price per ton of ore about 2*l.* 6*l.*. Compared with the corresponding sale of last month, the decline has been in the standard 3*l.* 10*l.*, and in the price per ton of ore about 5*l.*

At the Swansea Ticketing, on Tuesday, 2048 tons of copper ore were sold, realising 33,375*l.* 19*l.* The particulars of the sale were:—Average standard, 95*l.* 15*l.* 6*l.*; average produce, 19*l.*; average price per ton, 16*l.* 6*l.*; quantity of fine copper, 396 tons 16 cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Per unit.	Ore copper.
March 7.	1119	94 15 6	19 0	16 11 0	16 10 0	84 10 0
April 11.	2048	95 15 6	19 0	16 0 0	16 10 0	84 2 3

Compared with the last sale, which is also the corresponding sale of last month, the standard is about stationary. Of the 2048 tons sold on Tuesday, 744 tons were British ore, which gave an average produce of 11*l.* 11*l.* 6*l.*, and sold at an average standard of 102*l.* 4*l.* 9*l.* 12*l.* 6*l.* per ton of ore; the remaining 1304 tons were foreign ore, which gave an average produce of 23*l.*, and sold at an average standard of 93*l.* 16*l.* 6*l.*—20*l.* 2*l.* per ton of ore. There will be no sale on May 2.

At the Dolcoth Mine meeting, on Monday, the accounts for Jan. and Feb. showed a credit balance of 2184*l.* 19*l.* 7*l.* A dividend of 1790*l.* (5*l.* per share) was declared, and 344*l.* 19*l.* 7*l.* carried forward. The profit on the two months' working was 1765*l.* 6*l.* 3*l.*. The agents' report is among the Mining Intelligence.

At West Wheal Seton meeting, on Tuesday, the accounts for Jan. and Feb. showed a credit balance of 1754*l.* 2*l.* 3*l.* The profit on the two months' working was 1235*l.* 15*l.* 4*l.* A dividend of 1600*l.* (4*l.* per share) was declared, and 164*l.* 5*l.* 3*l.* carried to credit of next account. Captain Charles Thomas, Malachi Bath, and John Jennings reported upon the various points of operation. The amount of copper ore sold March and April, and to come to credit of June account, is 5472*l.* 10*l.* 4*l.*, and there is some tin.

At East Whell Lovell meeting, on April 7 (Mr. Henry Rogers in the chair), the accounts for the six months ending December showed a debit balance of 1516*l.* 11*l.* 1*l.* A call of 16*l.* per share was made. The reports of Captain S. Harris, of Capt. J. Burgan, and of Capt. Rowe and Quantrell were submitted. It was resolved that, in consequence of the conflicting reports which have been recently circulated, a committee, consisting of Messrs. Harvey, Lanyon, Broad, Edwards, Reed, Dale, and Kirby, be formed for the purpose of taking the matter into consideration, and to adopt such measures in connection therewith as may be deemed necessary. The committee was empowered to appoint a manager and agent, and generally to confer with the purser in reference to the mine. It was further resolved "That under present circumstances this meeting is of opinion that a change in the management of the mine is desirable, that the services of Capt. Burgan should be dispensed with, and that the purser be instructed to communicate this to him, and to pay him a month's wages."

At New Whell Lovell meeting, on April 5, the accounts for the three months ending January showed a credit balance of 1904*l.* 6*l.* 2*l.* A call of 3*l.* per share was made. Capt. Joseph Prike reported upon the various points of operation. They have 42 hands employed. We learn that since the meeting the 20 ft. level end, west of engine-shaft, is greatly improved; the lode is 20 in. wide, and worth 40*l.* per fm., and is set to drive at 5*l.* per fm. The lode in the rise in the back of the 20 is also improved, and is now worth from 16*l.* to 20*l.* per fm., and is set at 8*l.* per fathom. The stamps are working night and day.

At the Pen-dren-an-dren Mine meeting, on Tuesday (Mr. W. Jardine in the chair), the accounts showed a cash balance of 445*l.* 19*l.* 11*l.* A call of 5*l.* per share was made. Details in another column.

At the North Pool Mine meeting, on April 10, the accounts showed a debit balance of 371*l.* 15*l.* 1*l.* A call of 10*l.* per share was made. The unpaid calls mount to 1185*l.* 15*l.* 1*l.*, for the recovery of which proceedings are to be taken in the Lancaster Court. Captain J. S. Phillips reported on the mine, stating its present ap-

pearance to be most encouraging; and Mr. R. Tredinnick (the Chairman) congratulated the shareholders on the improved prospects of the enterprise.

At the Wheal Sparrow meeting, on Tuesday (Mr. W. Jardine in the chair), a call of 10*l.* per share was made. Details in another column.

At Tin Hill Mine meeting, on April 3 (Capt. Willcock in the chair), the accounts showed a debit balance of 307*l.* 0*l.* 4*l.* A call of 5*l.* per share was made. The value of assets over liabilities was 240*l.*

At Wheal Kitty (Uny Lelant) meeting, on April 5, the accounts for the three months ending January showed a debit balance of 1049*l.* 6*l.* A call of 1*l.* per share was made. Capt. Richards, Williams, and Anthony, in their report, say—"The low price of black tin is very severe upon us; yet we think that when the levels are regularly driven on the North Kaseo lode we shall get on without loss, but in putting the engine-shaft in thorough order has been a costly affair, both in time, timber, and labour expenditure. We should not enter so longly in this matter but the balance of loss demands it, to explain the true position of our future prospects."

At North Grampian Mine meeting, on April 8, the accounts showed a debit balance of 241*l.* 8*l.* 7*l.* A call of 3*l.* 6*l.* per share was made.

At the North Downs Mine (general) meeting, on Monday (Mr. M'Callan in the chair), a resolution was unanimously passed to continue the working of the mine. Details in another column.

At the South Condurrow Mine meeting, on Thursday (Mr. Edward Burgess in the chair), the accounts showed a credit balance of 21*l.* 6*l.* 11*l.* A call of 3*l.* per share was made. Details in another column.

At West Great Work Mine meeting, on April 5, the accounts showed a debit balance of 595*l.* A call of 3*l.* 4*l.* per share was made. The calls in arrears amount to 557*l.* 2*l.* 4*l.* Capt. Reed is to have 9*l.* 9*l.* monthly for his services as manager; and Mr. A. E. Paul, the purser, 2*l.* 2*l.* per month for attending to the duties of clerkship. Captain Reed says—"We have 15 pits working by 38 men, at tributes varying from 9*l.* to 15*l.* in 11. This having been the first quarter in which we have stamped our tinstuff, I am glad to say the produce has been satisfactory as regards the yield of the stuff, and the tin is of a very superior quality. We have sold during the quarter 13 tons 15 cwt. 1 gr. 22 lbs. of black tin, realising 795*l.* 15*l.* 10*l.* I may add that the prospects of the mine are of a very encouraging nature."

At the Strathbryn Mining and Smelting Company extraordinary general meeting, on Tuesday, Mr. Winkworth (the Chairman) said that the shareholders were aware that the meeting being called specially there was no necessity to read the minutes of the last meeting. The directors have been anxious to distribute amongst the shareholders the balance left in their hands, but, owing to the vexatious delay in legal matters, they were not in a position to advise such until the present meeting; there was, however, the satisfaction of having had the money in hand, which, subject to the appointment of a liquidator, as proposed by the directors, would be equally divided amongst them. In reply to a shareholder, Mr. Vallance stated that the amount in hand, after providing for all claims against the company, would be about 3500*l.* After some discussion, it was agreed that the remuneration to the five directors for their services during the past eight years be 40*l.* per annum (320*l.*), and that Mr. F. Whinney (of the firm, Harding, Fullein, Whinney, and Gibbons) be appointed liquidator. A vote of thanks to the Chairman terminated the proceedings.

The Fairbairn Engineering Company first meeting of shareholders will be held on Thursday next, when the report will show that the net profits of the year (after payment of all expenses connected with the London office, and making allowance for directors' remuneration, and all doubtful or bad debts) amounted to 17,396*l.* 2*l.* 11*l.*, with which sum the directors propose to deal as follows:—To declare a dividend at the rate of 10 per cent. per annum, 11,560*l.*; to pay to the manager under the terms of his agreement, 825*l.*; to reserve for the payment of income tax, 289*l.*; to write off the whole of the preliminary expenses, amounting to 1362*l.* 2*l.* 5*l.*; and to carry forward to profit and loss, new account, the balance of 3360*l.* 9*l.* 6*l.*—making a total of 17,396*l.* 2*l.* 11*l.*. The works are in most efficient order, and continue to be well employed.

Mr. Hawkshaw's award in the matter of the Humber Ironworks and Ship-building Company has been made. It is 145,000*l.*, less than the claim made against the company, and so far from the company having more money to pay, the vendors are in debt to the company, for which they will have to account. The shares have, consequently, been in brisk demand, at an advance of 3*l.* and 4*l.* per share.

NEWCASTLE-ON-TYNE, APRIL 13.—The mining market for local shares has become active, after being quiet for a very considerable time. Several handred Harwoods have changed hands this week, at various prices, from 10*l.* to 15*l.*, closing firmly at 12*l.* 10*l.* 6*l.*. Tinheads remain quiet, at a nominal figure, also neither Heaths. West Chilverton, Mineral Bottom, Chilverton, North Shepherds, and Clifford enquired for. Troedyrhyll, 4*l.* to 5*l.*. East Lovell "sellers" at quotations. Cashwell improving in several places; about 40 tons of lead ore are ready for market. The prospects here are good indeed, and from its position must command attention from capitalists seeking profitable investments. The seat immediately adjoins the famous "Cross Fell" Mines, which have yielded enormous returns.—EDWARD BREWIS.

COAL MARKET.—On Monday, the fresh arrivals numbered 75 ships, which gave a supply of house coal beyond the immediate requirements of the trade, and business was dull, without any change in quotations. Hartley's were in demand, and advanced 6*l.* per ton. Best house coal, 19*l.* to 20*l.*; second, 17*l.* to 18*l.*; Hartley's, 16*l.* to 16*l.* 6*l.*; manufacturers', 13*l.* 6*l.* to 14*l.* 6*l.*. On Wednesday, there were 23 arrivals. There was an increased depression in the market for house coals, and prices suffered a reduction of 1*l.* per ton. Hartley's further improved 6*l.* per ton. Hutton Wallsend, 19*l.*; South Hutton Wallsend, 19*l.*; Hartlepool Wallsend, 18*l.* 6*l.*; East Hartlepool, 18*l.* 6*l.*; Eden Main, 17*l.*; Gosforth Wallsend, 16*l.*; Harton Wallsend, 16*l.*; West Hartley, 17*l.*; Holywell Main, 15*l.*: 27 cargoes unsold; 50 ships at sea. On Good Friday, no market.

BREACH OF COLLIERY REGULATIONS.—At Oldham Police Court, Thos. Butterworth, proprietor of Bent Gange Colliery, was fined 50*l.*, and costs for failure to put up danger signal and fencing at a place charged with fire-damp, as required by the Act of Parliament.

THE SCOTCH IRON TRADE remains in a most unsatisfactory condition, the struggle between the employers and the employed presenting no probability of solution. Every effort appears to be made by the Unionists to induce emigration, while the masters are resolved to maintain their determination to reduce wages to the extent of 1*l.* per ton to puddlers, and 10 per cent. to millmen. It is estimated that upwards of 5000 men have been thrown idle.

A Board of Trade return just issued gives the proposed capital of the various projects for which Parliamentary sanction is sought in the present session. The total share capital is 92,422,938*l.*, and loan capital 33,018,770*l.*—together, 125,441,708*l.*

MINING EXCHANGE.—The committee have resolved to close the Mining Exchange on Monday next, the 17th inst.

EAST POOL MINE, NEAR REDRUTH—WOLFRAM FOR SALE.—TENDERS are REQUESTED for about THIRTY TONS of WOLFRAM, now ready at East Pool Mine, Redruth, Cornwall.—Address, Captain W. S. CARRY, as above, who will supply samples if desired.

GREAT NORTH LAXEY (ISLE OF MAN).—A considerable demand has sprung up for these shares, and a large business doing in them. The merits of the mine are daily more appreciated. Mr. JOHN BATTEN can supply a few shares at a reasonable price.—13, Throgmorton-street, London, E.C.

GREAT WHEAL METAL MINING COMPANY (LIMITED).—FOR SALE, in consequence of the death of the late holder, TWO HUNDRED FULLY PAID-UP SHARES in this valuable company. The advertiser prefers selling in one lot, when a liberal discount will be allowed.—Apply to Mr. J. FAIRBAIRN, auctioneer, surveyor, &c., 48, Cambridge-street, Pimlico, S.W.

MR. J. P. ENDEAN, STOCK AND SHAREBROKER, 1, CROWN COURT, OLD BROAD STREET, LONDON, E.C.

Having had 25 years' experience in the mining districts of Devon and Cornwall, and three in the London market, with daily information of important changes from qualified agents, also the most authentic reports relating to other investments, he is in a position to afford the earliest information to his clients, and to direct capitalists whether to buy or sell in mines, railways, or other securities.

Investors should apply to him for reliable information relative to the Chilverton Mines also the Camborne and Illogan districts.

A carefully selected list of sound progressive and dividend shares (certain to give a large percentage immediately) forwarded on receipt of 5*l.* in stamps.

Orders and telegrams receive immediate attention.

THE FOLLOWING SHARES will be SOLD at a GREAT SACRIFICE, in consequence of the death of the proprietor, and in fulfilment of the conditions of will:—

65 Public Works (London and Paris)	20 Cape Cornwall.	30 Crown and Wendron.
10 E. India Cotton Agency.	60 Havan Lead.	10 Jona's Finance.
20 Great Wheal Bonnie.	50 Devon Slate & Slab.	20 Maudlin.
10 New Comb Martin.	21 Grenver and Abraham.	50 Wheal Ida.
20 Clowance Wood.	10 Fortescue Consols.	10 Cae Rye Iron.
	20 Tin Hill.	20 Wheal Sparrow.

Apply to Mr. Newcombs, 33, Cumberland-street, Pimlico.

ROBERT LIBBY AND SON, MINE SHAREDEALERS, &c., CAMBORNE, CORNWALL.

All mines that they recommend, as under, to capitalists they would advise them to obtain the services of practical agents to invest for them before buying, as they then would know where and what they are laying their capital out in.

Wheal Trannack.	Cran.	South Crofty.
East Lovell.	Rosewarne United.	Great North Laxe.
East Carn Brea.	East Rosewarne.	New Rosewarne.
Clifford Amalgamated.	Sithney Metal.	Wheal Curtis.

MINING OFFICES, MANCHESTER.

THOMAS MOLYNEUX AND CO. MINE AGENTS, SHAREBROKERS, AND GENERAL COMMISSION AGENTS. Reliable information can be obtained as to purchase and sale of shares. Office of the Hazel Grove Silver-Lead Mining Company (Limited), Fimshire. Prospecting, reports, &c., of this valuable property may be had on application to No. 28 Princess-street, Manchester.

ISAAC FRANCIS, NANT, WREXHAM, a dresser of 30 years experience, is OPEN to INSPECT ANY DRESSING PLACE on moderate terms. Mr. FRANCIS can introduce PLANS of IMPROVEMENTS that will SAVE THIRTY PER CENT. COST in certain departments of any dressing floors.

BLACK TIN.

Date.	Mines.	Tons.	q. lbs.	Price per ton.	Amount.	Purchasers.
March 30.	St. Ann.	4	3	5	20 0	St. Ann.
April 3.	Drake Walls	13	1	27	351 0	Chyandour.
" ditto	"	5	6	124	624 0	"

LEAD ORES.					
Date.	Mines.	Tons.	Price per ton.	Purchasers.	
April 3	—North Devon	40	12 4 0	Bury Port Co.	
April 8	—Harodstoe	70	30 12 6	Michell & Son.	
April 10	—Frongoch	65	12 13 0	Sims, Williams, & Co.	
	— ditto	65	12 14 0	Bury Port Co.	
	—West Frongoch	22	12 14 0	ditto	
	—East Darren	75	15 11 6	Panther Co.	
	—Cwm Erdd	45	16 13 0	ditto	
	— ditto	25	17 3 6	J. & J. Williams.	
	—Dyliffe	85	12 12 0	Walker, Parker, & Co.	
April 12	—Great Lacey	100	23 19 0	Sims, Williams, & Co.	
	—West Chilverton	80	21 1 6	Trefry's Trustees.	
	— ditto	40	11 18 0	R. Michell & Son.	
April 13	—Talaroch	135 1/2	14 8 6	Walker, Parker, & Co.	
	— ditto	54	14 10 6	ditto	
	— ditto	86	14 10 6	A. Eytton.	
	—Deep Level	17	12 16 6	Walker, Parker, & Co.	
	—Bryndor Hall	5	11 15 6	ditto	
	—Bedol-Aur	15	12 12 0	Newton, Keates, & Co.	
	—Lady Elenor	8 1/2	13 3 0	A. Eytton.	
	—Rhodesmor	46	12 5 0	Newton, Keates, & Co.	
	—Parry's	20	13 7 0	A. Eytton.	
	—Bryngwlog	45	13 17 6	Walker, Parker, & Co.	
	—Billins	10	13 0 6	ditto	
	—North Henblas	29	11 15 6	ditto	
	—Penant	11	12 32 0	A. Eytton.	
	—Hendri	13	13 8 6	ditto	
	—Rhowl	30	13 8 6	ditto	
	—Pantyne	4 1/2	12 15 0	Walker, Parker, & Co.	
	—Dog Pit	11	11 13 0	Newton, Keates, & Co.	
	—Llangynog United	23	12 0 0	Walker, Parker, & Co.	
	—Roman Graves	25	13 1 6	A. Eytton.	
	—Dyngwm	11	12 15 0	Newton, Keates, & Co.	
	—Llanerchysair	12 1/2	13 13 6	ditto	
	—Caeconroy	6	14 3 6	ditto	

BLENDE.				
Date.	Mine.	Tons.	Price per ton.	Purchasers.
April 5—Great Laxe	200	£2 18 0	Vivian & Sons.

Sampled March 22, and sold at Swansea April 11.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cape Copper.	67	29 1/2	23 12 6	Ballycunniah 137	8	12 1/2	10 4 6
" ditto	65	29 1/2	23 12 6	Knockmahon 137	12 1/2	10 4 6	
" ditto	63	29 1/2	24 3 0	" ditto	139	12 1/2	10 12 6
" ditto	47	29 1/2	23 12 6	" ditto	137	12 1/2	10 11 6
" ditto	41	29 1/2	23 12 6	Chill Ore	81	31 3/4	26 12 6
" ditto	38	29 1/2	23 12 6	" ditto	49	31 3/4	26 12 6
" ditto	65	34 1/2	28 6 0	Australian Ore	92	7	5 8 0
" ditto	59	33 1/2	27 8 6	Kanmantoo Ore	47	15 1/2	13 3 0

WATSON AND CUELL'S MINING CIRCULAR.

WATSON AND CUELL,
MINING AGENTS, STOCK AND SHARE DEALERS, &c.,
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

Messrs. WATSON and CUELL having made arrangements for transferring their weekly Circular, which has had so large a circulation during the past ten years, to the columns of the *Mining Journal*, their special reports and remarks upon Mines and Mining, and the state of the Share Market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. Watson, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium published in 1843 Mr. Watson was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. Watson and Cuell have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share-dealing than there is at present; and, from the lengthened experience of Messrs. Watson and Cuell, they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON and CUELL transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt, and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON and CUELL also inform their clients and the public, that they transact business in the public funds, railways, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON and CUELL are almost daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON and CUELL having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are enabled to supply shares in all the best mines at close market prices, free of all charges for commission.

LITERARY NOTICE.

Cosmogony; or, the Principles of Terrestrial Physics. By EVAN HOPKINS, C.E., F.G.S., author of "Geology and Magnetism." Price 3s. 6d., cloth. London: Longman and Co.

The object of this work is to give a brief outline of the operations of terrestrial physics, geological changes, &c., as actually observed in all parts of the world, from the southern hemisphere to the arctic regions; and to show that no geological discoveries have yet been made to justify the extravagant speculations now entertained regarding the great antiquity of the earth. The majority of our modern geologists estimate the age of the world, not in thousands, but in millions and myriads of centuries, and ignore the Mosaic cosmogony altogether. The author first criticises the method of computation by which this extraordinary antiquity of the earth has been assumed, and shows the "fallacies" involved in the system of computing the ages of stratifications by means of their present rate of rising and depressing from the level of the sea. He explains that the rate of rising and depressing is extremely irregular; comparatively slow in the northern hemisphere, and somewhat rapid in the south. He then describes the changes produced by the constant operations of terrestrial magnetism, and the rate of the progress northward, caused by the polarity of matter, which rate, according to astronomical observation, is found equal to 20" of a degree per annum in the meridian, or about 11" in 2000 years. The author's well-known work "On the Connection of Geology and Terrestrial Magnetism," which was published upwards of 22 years ago, and reviewed in this Journal, entered fully into the subject, and need not be noticed on this occasion.

Many of the author's views, which were at first opposed, regarding the structure and the semi-aqueous conditions of the primary rocks, and the laws of metalliferous deposits, gold formations, &c., and the electro-magnetic operations, have been subsequently more or less accepted, not alone by practical men, but by many of the leading geologists. However, the object of "Cosmogony" is not to enter into the details of rocks and metalliferous subjects, but to show that if we apply the same principles of polarity to superficial geological changes, &c., we should find that the various electro-chemical and mechanical actions, and their resulting changes, are capable of accounting, in a most convincing manner, for all the discoveries disclosed by geology, without the necessity of ascribing enormous antiquity to the earth. The author, in conclusion, maintains that geologists have no demonstrative data to warrant their assumptions as to the great antiquity of the earth, and explains how the whole of the observed geological changes might have been produced within the period of the Jewish chronology. Although it is but a small work, it treats on a great subject, and of very deep interest to the human race. Modern geological assumptions have given rise to questions as to the veracity of Holy Writ, when taken in its literal sense; if, then, the principles which are enunciated in this work are found equally applicable to the removal of such grave doubts from the minds of the rising generation, as they have been for the guidance of miners in their subterranean operations, the scientific labours of the author will not have been made in vain. It places geology and magnetism in a new and more favourable light, and discloses a new field of labour, that promises a brilliant harvest to natural philosophers.

POPULAR SCIENCE REVIEW.—The April number of this work contains an excellent article on "Train Signalling in Theory and Practice," by Mr. Charles V. Walker, F.R.S., the telegraph engineer to the South-Eastern Railway Company; an article on "The Physical Phenomena of other Worlds," by Mr. Robert Hunt, F.R.S.; and on the oldest known fossil, *Eozoon Canadense*, by Prof. W. Rupert Jones; and four other articles which come under the head of original. The Reviews and Scientific Summary are of the usual character, and highly interesting.

RAILWAYS IN THE HOLY LAND.—A pamphlet, explaining the advantages of a railway between the Mediterranean, the Dead Sea, and Damascus, by way of Jerusalem, with branches to Bethelshem, Hebron, Nabulus, Nazereth, and Tiberias, has just been issued through Mr. Stevenson, of Paternoster-row, by Dr. F. F. Zorn. By the line from Jaffa to Jerusalem the pilgrims about 30,000 per annum, can have the advantage of railway accommodation, the celerity and economy of which will, doubtless, increase the number of pilgrimages, and consequently the railway company's profits. With regard to the branch from Jerusalem to Bethelshem, Dr. Zimpel states that the distance between these two places is very considerable. Bethelshem lies on the road leading from Jerusalem to Hebron. Part of the intercourse of these two towns will naturally fall upon the railway. From an elaborate estimate of receipts and expenditure, it appears that a capital of 600,000, will be required, which will return a profit of 6 per cent.

BANKER'S CLAIM ON EQUITABLE MORTGAGE OF SHARES.—Where the secretary or manager of a joint stock company, registered under the Companies Act, 1856, has become bankrupt, and his share has previously been deposited with the bank by way of equitable mortgage, to secure the repayment of moneys advanced to him for the use of the company, for which moneys he and his co-directors have given their promissory note—such shares are not within the order and disposition of the bankrupt, and the bank is entitled to claim the shares so deposited, although no formal notice has been given to the company. The Lord Chancellor thus decided, in *re Shelley*, on a claim by the Stourbridge Banking Company, who were equitable mortgagees of the Victoria Lead and Silver Zinc Company (Limited), to have the shares sold for the benefit of the bank, and that the bank might be at liberty to prove against the bankrupt's estate for the deficiency.

EXECUTORS AS SURETY WITH TESTATOR.—The Lord Chancellor has decided, in the case of *Boyd v. Brooks*, that when an executor, who has joined as surety with his testator, pays the debt after the testator's death, he is entitled to retain the amount out of the testator's assets, as against all creditors of equal degree. His Lordship said the principle of law which gave this right was a barbarous one, and he felt great regret that in a case of equitable distribution the result should be so unequal, and that it should be in favour of a person who was able to sweep away all the property from the testator.

NON-LIABILITY FOR NEGLIGENCE OF UNDERLOOKER.—The plaintiff in the case of *Hall v. Johnson* had been employed in the defendant's mine, and complained to the underlooker of the defective state of the roof. It was the duty of the underlooker to have the roof propped, and in consequence of his neglecting to do so a stone fell and injured the plaintiff. The defendants had put the mine into proper working order, and there was no evidence that they had personal knowledge of the defective state of the roof, nor that they had shown any want of care in the selection of an underlooker. Under these circumstances, it was held by the Court of Exchequer Chancery that the plaintiff and underlooker being fellow-labourers in a common employment, the defendants were not liable.

THE RUSSIAN (VYKSOUNSKY) IRONWORKS COMPANY

(LIMITED).
To be incorporated under the Limited Liability Act of 1862.
Capital £500,000, in 25,000 shares of £20 each.
Present issue 15,500 shares.
Deposit £1 on application and £4 on allotment. Beyond which it is not intended to call up more than £2 per share.
No call to exceed £3 per share, nor to be made at intervals of less than three months.
DIRECTORS:
W. AUSTIN, Esq. (Director, Metropolitan Railways).
ARTHUR G. CHAPMAN, Esq. (Director, Smith, Knight, and Co.).
M. CORRE VAN DER MAEREN (late Judge, Tribunal of Commerce, Brussels).
COL. ELSLEY, H.E.I.C.S. (Director, Bank of London).
COL. FRENCH (Chairman, Bombay and Baroda Railway).
HON. C. ROBERT, 5, Berkeley-square.
JOHN MOLLETT, Esq. (Director, Ocean Marine Insurance Company).
SUPERINTENDENT ENGINEER—Charles Matthaei, Esq.
BANKERS—Bank of London, Threadneedle-street and Charing-cross.
SOLICITORS—Messrs. Edwards and Co., Delahay-street, Westminster.
BROKERS—Messrs. Robins, Barber, and Dalley, Threadneedle-street.
AUDITORS:
Messrs. C. F. Kemp, Cannon, Ford, and Co., 7, Gresham-street.
Robert Smith, Esq., 6, Great Winchester-street.
SECRETARY (PRO TEM.)—Courtney Clarke, Esq.
OFFICES,—9, GREAT WINCHESTER STREET, OLD BROAD STREET.

This company is formed for the purpose of acquiring and extending the well-known ironworks, which have been established and in successful operation for a long period at Vukleka, in Russia.
The estate, which covers an area of 405,000 English acres and contains 35,000 inhabitants, is most advantageously situated on the navigable river Oka (which flows into the Volga at Nijni Novgorod), and is within 66 miles of the railroad which connects Nijni Novgorod with Moscow.
The estate possesses an inexhaustible supply of iron ore of superior quality, yielding an average of 45 per cent., and the works which are now in operation and in good order consist of—

- 5 Blast-furnaces.
- 23 Refining-furnaces.
- 17 Puddling-furnaces.
- 15 Rolling-mills, for all kinds of merchant iron, sheet-iron, and iron-wire.
- 8 Large hammers for sheet-iron.
- 125 Wire mills.
- 1 Factory for making all kinds of steam-engines.
- 3 Smaller factories for repairing engines.
- 1 Large boiler factory for making steam-boilers and steam-boats.
- 5 Foundries.
- 3 Factories for making scythes, nails, &c.
- 6 Brick kilns.

The above are worked by 72 water-wheels, of 1650-horse power, besides 15 steam-engines, of 478-horse power.
270,000 acres of the estate are covered with valuable timber; and this supply of fuel, coupled with the abundance and cheapness of labour, has enabled the proprietors to produce iron at a much less cost than in England, whilst the selling price in Russia is not equal to double what it is in this country, as the production within the empire is not equal to the demand, and foreign iron (except of a particular class) is kept out of competition by the high import duty and cost of transport.

The price at which the company's interest in the property, as defined below, has been conditionally acquired is the sum of £50,000, in addition to which an estimated sum of £35,000 will be required to pay off existing charges on the property, and it is calculated that the sum of £70,000 will be required for working capital, making together £165,000, which is the whole amount proposed to be called up.

The profits at the present time amount to about 537,000 silver rubles (about £70,000 sterling) per annum, subject, however, to a deduction of 72,000 rubles, being interest at 5 per cent., and sinking fund on a debt of 1,900,000 rubles due to the Russian Government, thus leaving a net annual profit of 465,000 rubles (£58,125). By arrangement with the proprietors, and hypothecation or mortgage to the company of their reserved interest in the estate, 87,000 rubles (£11,000), being about 7 per cent. per annum upon the whole capital proposed to be called up, is guaranteed to be first paid to the shareholders of the company; of the surplus profits (378,000 rubles or £47,000), three-fifths will belong to the present proprietors, and two-fifths to the shareholders, for a period of 37 years. Thus on an estimate of the profits at the present time, and without considering the improvements likely to result from an increase of capital, a dividend of about 20 per cent. per annum is shown upon the capital (£165,000) required to be called up. In the above estimate no account has been taken of the profits upon the manufacture of steam-engines, boilers, &c., and it is anticipated that by the introduction of further capital and the development of the works, the returns will be more than doubled.

It is intended to create a sinking fund for the purpose of returning to the shareholders, at the expiration of 37 years, when the interest of the company will cease, the whole amount of the capital called up. On the determination of the lease, the proprietors bind themselves to have a valuation made of all the property above ground, and after deducting the present value, to pay to the company one-half of the difference in cash. Thus, in addition to receiving a highly remunerative dividend during the 37 years, at the end of that time the whole of their capital will be returned to the shareholders, with a considerable bonus.

It is believed that the Russian Government will grant a concession for the construction of a railroad, to pass through the estate, and connect the Nijni-Novgorod and Moscow line with Riazan and Toula, which, as will be seen from the map accompanying the prospectus, is the centre of a group of Russian railways now in course of construction, and is situated in the midst of the most flourishing manufacturing districts of the empire.

Plans of the estate and works, the engineer's report, and other documents on which the above statements are founded, may be inspected at the offices of the company.

Applications for shares to be made in the accompanying form. In the event of no allotment being made, the deposit will be returned in full. Should a less number of shares be allotted than are applied for, the deposit will be made available towards the payment on allotment, and the balance, if any, returned to the applicant.

Prospectuses and forms of application for shares may be obtained at the offices of the company, and of the bankers, brokers, and solicitors.

FORM OF APPLICATION FOR SHARES.

(To be retained by the bankers.)
No.
To the Directors of the Russian (Vyksounsky) Ironworks Company (Limited).
GENTLEMEN,—Having paid to your bankers the sum of £ being a deposit of £1 per share on shares in the above company, I hereby request that you will allot me that number, and I agree to accept such shares or any less number you may allot me; and I agree to pay the sum of £4 per share on allotment, and I authorise you to insert my name on the register of members for the number of shares allotted to me.
Usual signature
Name in full
Residence
Date 1885. Profession

THE SOUTH CORNWALL MINING COMPANY (LIMITED).

Capital £100,000, in 10,000 shares of £10 each. First issue, 6000 shares.
Deposit on application, £1 per share; payment on allotment, £1 10s. per share.
Calls not to exceed £1 per share, at intervals of not less than two months.
It is not intended to call up more than £7 10s. per share.
Incorporated under the Companies Act, 1862.

DIRECTORS:
Sir THOMAS PARKYN, Bart., 9, Gloucester-square, Hyde-park.
Sir ARTHUR HUMPHOLD, Bart., St. James's Club.
Sir EDWIN PEARSON, Director of the Scottish Australian Investment Company.
W. WEST, Esq., banker, St. Austell (Messrs. Williams, Trefry, West, and Co.).
E. J. PEARSON, Esq., Wimblesdon, Surrey.
BANKERS—Metropolitan and Provincial Bank, Cornhill, London.
Messrs. Williams, Trefry, West, and Co., St. Austell.
SOLICITORS—Messrs. Hancock, Sharp, and Hales, Birchen-lane.
AUDITOR—S. Lowell Price, Esq., 5, Gresham-street.
SECRETARY—Mr. W. H. Jordan.

TEMPORARY OFFICES,—30, NEW BROAD STREET, LONDON.

PROSPECTUS.

The important property for the working of which this company has been formed is situated in the parish of Tywardreath, between the Par Consols and Fowey Consols, two of the most important mines in Cornwall, from which upwards of £3,000,000 have been already returned.

The seat extends nearly a mile in length, and is more than half a mile in width, containing twelve parallel and highly mineralised lodes, two of which have produced, from very limited operations, a large quantity of copper ore, of rich quality.

The past operations were carried on by a single adventurer, the late J. T. Trefry, Esq., and, although the workings were directed somewhat to the west of that which is generally considered the most productive part of the mineral-bearing strata, yet the produce even there showed that very profitable results may be anticipated by a proper development of the mine. The insufficiency of the engine-power, and the death of the late proprietor, were the sole causes of the suspension of the works; and all the parties connected with the late Mr. Trefry bear testimony that he entertained so high an opinion of the mine that he fully intended to have reserved the whole of it to himself, and to have thoroughly developed it at his own expense.

The amount required for the perfect development of the property and the purchase of the leases, including the erection of two pumping-engines, one of 300-horse power; two large winding-engines, with sufficient boiler-power to each; steam capstans; and other necessary machinery, is estimated at £45,000; but returns will be made so soon as the machinery is erected on the shaft, already down to the 70 fathom level, and the mine is cleared out, with the prospect of a rapid increase in the produce as the various levels and lodes are opened.

An adit or water level has been driven so as to intersect the lodes, which are of the same character and are parallel to those worked at the Par Consols and Fowey Consols, and the productive strata can also be readily traced to several of the most profitable mines ever worked in the county.

There is a large stream of water at the surface, which will be used to great advantage for various purposes, effecting a considerable saving in the expenditure for all surface operations.

Leases for twenty-one years have been secured on very advantageous terms, and the dues range from 1-15th to 1-16th of the produce, with a small minimum rental, which will merge in the dues as soon as they become payable.

A number of practical miners living in the immediate vicinity of the property, and working in the adjoining mines, have made application for 250 shares, representing the sum of £2500, and a considerable amount of capital has been promised by inhabitants of the locality. These facts forcibly prove that the mine, in the opinion of those best qualified to judge, is one of more than ordinary value.

The directors have determined not to call up more than £7 10s. per share, leaving £15,000 reserve on the first issue, as an ample guarantee for all engagements that may be entered into by the company.

Prospectuses and forms of application for shares may be obtained of the bankers, brokers, solicitors, or of the secretary, at the temporary offices of the company.

Applications for shares must be made in the usual form, accompanied by a deposit of £1 per share. If no allotment be made, the deposit will be returned in full; and if a less number be allotted than is applied for the surplus will be applied towards the payment on allotment.

MR. BRENTON SYMONS INSPECTS and REPORTS on ANY MINERAL PROPERTY. In all cases where procurable a plan will accompany his report.—15, Hatton-garden, E.C.

ABRIDGED PROSPECTUS.

THE WIGAN MAIN ARLEY MINE COAL COMPANY

(LIMITED).
To be incorporated under the Companies Act, 1862, which specially limits the liability of each shareholder to the amount of his shares.
Capital £30,000, in 6000 shares of £5 each.
Deposit 5s. per share on application, and 15s. on allotment.
It is not anticipated that more than £15,000 will be required.
DIRECTORS:
GEORGE ASHWORTH, Esq., cotton spinner, Moss Mill, Heywood, and Chairman of the Devonshire Silkstone Coal Company.
EDWARD BARNES, Esq., Layland, near Preston, of the Dunkenhaugh Park Collieries, near Accrington.
BENJAMIN FISHER, Esq., of Bradley Hall Collieries, Bradley Hall, near Wigan.
THOMAS FARRIMOND, Esq., mining engineer and viewer of the Lancashire Collieries, Ashton-under-Lyne; of the Ribbles and Enfield Collieries, near Church; and of the Staveley Main Coal Company, Derbyshire, &c.; and check viewer of the Staveley Collieries, near Wigan, &c.
EDWARD HULL, Esq., B.A., F.G.S., of the Geological Survey of Great Britain, and Director of the North Stafford Steel, Iron, and Coal Company; author of "The Coal Fields of Great Britain."
JOHN JAMES HORSFALL, Esq., of the Fairbottom Collieries, Ashton-under-Lyne.
JOHN FIKKINGTON, Esq., cotton spinner and manufacturer, Alblon Mills, West-houghton, and Lostock Grange, near Bolton.
(With power to add to their number).

BANKERS:
The Manchester and Liverpool District Banking Company, and their branches throughout the country—viz., Wigan, Rochdale, Bury, Blackburn, Warrington, &c.

Messrs. Sale, Worthington, Shipman, and Seddon, 29, Booth-street, Manchester.

Messrs. Fitzgerald and Taylor, 63, King-street, Manchester.

REGISTERED OFFICES—EXCHANGE ARCADE, MANCHESTER.

This company is formed for the purpose of purchasing the fee simple and working a most valuable mineral property known as the Moss Hall Estate, in the township of Lostock, near Wigan, consisting of 124 acres or thereabouts of excellent agricultural land, together with all the buildings erected thereon, with all other rights and privileges thereunto belonging, together with all the valuable coal seams, ironstone, brick and fire-clay, &c., underneath the same.

The principal object of this company will be to work the Arley Mine, otherwise known as the Ormly Four Feet, whose superior qualities for house, steam, and coking purposes has gained for it a world-wide reputation in all markets at the highest current price. The Lancashire and Yorkshire Railway intersects the estate on the level, giving great facility for all kinds of traffic. This estate and the one adjoining were bored by eminent men, and the Arley Mine was proved to be of excellent quality. In one hole, nearest the crop, it was found to be 3 ft. 6½ in. thick, and in the other upwards of 4 ft. 1 in., and being 135 yards above the Arley Mine, after allowing for the dip or inclination of the strata, which is about 1 in 9, and the difference in level of the surface, shows the Arley Mine to be of one uniform depth, thus conclusively proving it to be remarkably free from faults or steps—and this, together with being free from water, comparatively speaking (being a well-known characteristic of this mine), are recommendations which directly tend to ensure large returns for a small outlay.

The advantages of purchasing the Moss Hall Estate will become apparent, when it is stated that it is so situated as to command about 2000 acres of Arley Mine adjoining, being in the middle and rise of the same, and dividing it into two portions of equal area, and the underground roads into equal lengths, which is a great desideratum in mining operations. The directors have been in communication with the owners whose coal they will first be in a position to work after the Moss Hall is finished, and they have it offered to them upon easy terms—in fact, this coal field would have been opened out long ago, if the Moss Hall Estate could have been purchased, but the owner, seeing that it was the only natural outlet to the Lostock coal field, resolutely determined to lease the mine to the company, and to charge wayleave, which it will be seen is no small item, when it is stated that on 2000 acres it would amount to more than £100,000. The Lostock coal field is divided into a number of separate estates. The directors consequently themselves upon having secured the estate upon such advantageous and reasonable terms.

There is another feature in this mine not to be lost sight of, and that is the extremely low price paid for the working of it. The colliers' wages per ton is 1s. 4d.; the dead bottom expenses 1½d.; top expenses 1½d.; timber, oil, tallow, and general wear and tear 3d.; viewing, office expenses, taxes, &c. 1½d.; and mine rent or royalty 8d.; thus making a total of 2s. 7½d. per ton for putting the mine into railway wagon. The present pit price—that is, the price obtained for the coal after having cost 2s. 7½d. in producing it is 5s. 8d., showing a net profit of 3s. 8½d. per ton.

In calculating the profits that will arise from this undertaking, the directors—gentlemen living in the immediate neighbourhood, well knowing the district, and practically conversant with the coal trade in all its varied departments—have been careful in taking the lowest possible estimate, and allowed great margin for any interruption in trade, strikes, &c., but they do not apprehend it can by any possibility be worse than at present. The plant, machinery, and works will be so arranged as to raise 200,000 tons per annum, but in this calculation they will only take 150,000 tons. Then again, the lowest estimate of profits, even under the present depressed state of trade, is 3s. 0½d. per ton, but the directors have, for the purpose of this calculation, only taken in 2s. 6d. per ton. Again, the directors are most sanguine that £15,000 of capital will be sufficient. £7000 for the estate, and the remaining £8000 for developing the colliery (the four yearly instalments being met by the mine rent, or royalty, which in the estimate of profits is taken at 8d. per ton), yet for this estimate they calculate interest upon £20,000.

To 150,000 tons of coal, at 2s. 6d. per ton £15,750 0 0
Deduct from this, for redemption of capital 750 0 0

£18,000 0 0 nett profit.
Which is equivalent to 90 per cent., on a capital of £20,000.
The rate of getting being 150,000 tons per annum, and taking the area of the coal field at 2000 acres, the colliery is calculated to last about 70 years.

The directors have got estimates, one from a responsible mining engineer, who undertakes to erect machinery and win the Arley Mine,—make sidings on to the Lancashire and Yorkshire Railway, and all requisites necessary and usual in modern collieries for raising and putting into coal wagons 200,000 tons of coal per annum, including offices, workshops, in fact everything that will be required, for the sum of £4000; and further agrees to deliver the works up to the company complete, and the mine opened out ready for working, in eight months from the date of contract. After having had four months working, the directors are confident of being able to declare a good dividend at the end of the first financial year.

The directors could point out the numerous large fortunes that have and are being made by the working of the Arley Mine, in the Wigan district; in fact, they never knew a single instance of failure; and this they name as a sure and certain guarantee of the success of this company. The fact of its being in the immediate neighbourhood of the great shipping ports of Liverpool, Garston, Widness Dock, and Preston, and in the very midst of the large manufacturing towns of Lancashire, where the local consumption is immense—being about 12 miles by rail from Manchester, 15 from Preston, and a little over that distance to Liverpool and Garston, and moreover, working, as is admitted on all sides, the best mine in the Wigan coal field—how is it possible to be otherwise than a complete success.

The price which the directors have agreed to pay the owner of the Moss Hall estate is £23,000; £2000 in cash when the company is formed, and £5000 when the conveyance, &c., are signed, the remaining £16,000 to be paid in four yearly instalments of £4000 each, and to bear interest at the rate of 4 per cent. per annum.

Every director takes the requisite number of shares to qualify him as such.

No free shares are given to any person, and only the preliminary expenses will be incurred.

Priority of application will have due consideration in making the allotment.

All applications for shares must be accompanied by a deposit of 5s. per share, which will be returned in full in cases where no allotment is made.

Applications from the country, if more convenient, may be made by crossed cheque or Post-office order, payable to the bankers, and addressed to the secretary, at the offices of the company.

Prospectuses, mining engineers' reports, and every information may be had on application to the secretary at the offices of the company.

FORM OF APPLICATION FOR SHARES.

To the directors of the Wigan Main Arley Mine Coal Company (Limited).

GENTLEMEN,—Please to allot me shares in the above company, for which I enclose a deposit of 5s. per share, and request you to register my name in respect of such shares, or any less number allotted to me.

Name in full
Profession or occupation
Dated the day of 1885. Address

NOTICE.—No APPLICATION FOR SHARES WILL BE RECEIVED AFTER TUESDAY, APRIL 25.

SWANSEA COPPER ORE WHARVES,

TO IMPORTERS OF FOREIGN COPPER, LEAD, AND CALAMINE ORE.

Swansea, July 1, 1885.

GENTLEMEN,—We beg to inform you that, in consequence of the retirement of Messrs. W. and J. M. Williams from the copper ore trade, which they have carried on here for so many years past, we have resolved to enter upon that business, and for which purpose we have secured most eligible wharves, on the west side of the North Flood, where vessels drawing 20 ft. of water can get alongside at all times. These wharves are now covered in, the floors being made of concrete to prevent waste of the ore. A powerful steam crusher has lately been erected on the premises, and is now in working order.

The business we propose carrying on is that of COPPER ORE WHARFING, combined with metal and other general agencies, which will be managed by our Mr. Thomas Elford, who for 20 years has filled an important situation under Messrs. Williams, Foster, and Co., and for the last eight years has had the entire management of their large copper smelting works, and copper and metal rolling mills, in this locality, as well as the copper ore business of Messrs. W. and J. M. Williams, which we trust will be a sufficient guarantee to our friends that any business they may entrust to our care will be conducted with the most scrupulous attention to secure the best results for their interests.

In consequence of the large number of very extensive Copper smelting works concentrated in this immediate locality, this market affords greater competition for ore than perhaps any other in the world, there being now no less than sixteen distinct companies competing for ore sold at the public tickings, every two or three weeks. There is also a good demand for lead and zinc, or calamine ore, several large lead and spelter works having been established in this district for some time past, and new ones are in course of erection.

Soliciting a share of your consignments of ore, regulina, and slab copper to this port, as well as a share of any general business you may have to transact in this quarter, we remain, Gentlemen, your obedient servants.

ELFORD, WILLIAMS, AND CO.

REFERENCES.—Messrs. Williams, Foster, and Co., London and Liverpool; Messrs. Williams, Harvey, and Co., London and Liverpool; the Glamorganshire Banking Company, Swansea; Messrs. Alex. Bell and Sons, No. 8, Finch-lane, London; Messrs. Arnaud de Lacombe, Madrid.

GOVERNMENT SECURITIES, JOINT-STOCK BANKS, RAILWAY DEBENTURES AND BONDS, COLONIAL SECURITIES, FOREIGN BONDS, AND BRITISH MINES.—Messrs. TREDINNICK AND CO., of 78, LOMBARD STREET, LONDON, E.C., may be consulted confidentially as to the eligibility of all bond &c. investments. A selected list forwarded on application.

Just published, in post 8vo., price 3s. 6d. cloth, **COSMOGONY: OR THE PRINCIPLES OF TERRESTRIAL PHYSICS.** By EVAN HOPKINS, C.E., F.G.S., &c., Author of "Geology and Magnetism."

A well-written and interesting little book, on a great subject. Its author brings into it the latest knowledge, and some of the newest speculations, on the structure of the universe. It is well worth reading.—*Globe*.
 In these days of madman sentimentality about the teachings of "science, falsely so called," it is pleasant to meet with a volume like that now before us. The author is an ardent student of physical enquiry, and his observations have been accurate as well as varied and prolonged. Mr. Evan Hopkins finds no difficulty in reconciling the Mosaiism of the Bible with the discoveries of contemporary investigators, but sees in every scientific discovery the confirmation of the truth of the Bible, and a new proof of the authenticity of the Pentateuchal records. Our readers will do well to make acquaintance with this sterling production.—*Church Standard*.
 London: Longman, Green, and Co., Paternoster-row.

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 By JOHN BOWER, Esq., D.C.L., Barrister-at-Law, Managing Director of the Snowdon Hall Quarries Company (Limited).
 London: Published at the *MINING JOURNAL* office, 26, Fleet-street, E.C., and sold by all booksellers and newsgate.

Notices to Correspondents.

ABERAMAN IRONWORKS COMPANY.—I am glad to perceive, by the letters in last week's *Journal*, that the shareholders are awakening to the necessity of taking some steps to protect themselves from the fearful mismanagement of their property in this mine, by which the shares are rendered perfectly unsaleable, and the credit of the whole concern damaged, if not ruined. I think it is quite necessary that we should, at least, form a committee to watch the proceedings of the company, and communicate with the other shareholders, if we find it desirable to take more decided steps, either to protect ourselves from further sacrifices, or to recover some portion of the money we have already been induced to part with upon such fallacious pretences. I understand that Mr. Wickens has already commenced an action against Mr. Crawshaw Bailey for the recovery of the money paid, on the ground of insufficient acreage; but the company have nothing to do with Mr. Crawshaw Bailey. They must insist upon the fulfilment of the contract by Mr. Wickens, failing which, demand the return of the money from him. Whatever may be the fate of the action by Mr. Wickens against Mr. Bailey, if there is a pending—and I have it upon the authority of one of the promoters of the company—no time should be lost by the company in asserting their legal rights, otherwise it may be several years before the question is finally decided, by which time all the money subscribed will have been spent in law. Indeed, it may well be asked, why was not this done immediately after the discovery of what had been practised upon them, instead of which, we hear the shareholders in the dark as much as they could in the first instance, and then they have carried the thing on at any sacrifice of their future prospects, if it had been possible to do so. Shareholders are proverbially patient and long-suffering, because they are unwilling to be at the trouble or expense of combination while they think there is the slightest hope of receiving fair play; but is there anything in connection with the proceedings of the present company that is calculated to give this assurance to the shareholders, from the exposures of the recent trial down to the last few days, when it is positively asserted that another call is contemplated, while, at the same time, we hear the formal demand has been made for the return of the money? What are we to believe, and where is the foundation for our confidence to rest upon? I answer, unhesitatingly, we must look to ourselves, and I shall be most happy to put down 10s., if required, to form a fund to assist in carrying out the suggestion made last week. I trust other shareholders will come forward, and if not prepared to assist with their subscription, aid us with their counsel. We shall certainly deserve to lose our money if we make no effort to save it. I send you, Sir, my name and address, and beg to subscribe myself—*ANOTHER DELUDED SHAREHOLDER*.

ABERAMAN IRONWORKS COMPANY.—In a former *Journal*, with reference to the Aberaman Ironworks, it was said that the shareholders could demand the return of their money if the acreage of the land is less than set forth in the prospectus. Now, Sir, it is all very well to say we can demand our money back, and common sense and honesty would seem to dictate the justice of such a demand; but what is the use of demanding, when the honourable gentlemen (whose conduct made the very hair of a Judge's wig stand on end) are not likely to comply? How am I to enforce such a demand? The shareholders are a rope of sand, while the self-appointed directors of the concern are closely leagued together. Perhaps someone will kindly explain what course we should pursue to protect ourselves. Seven or eight months have elapsed, and the affairs of the company seem as far off as ever from any profitable settlement: 100,000l. has been subscribed by the shareholders (at least, if the directors and their friends have paid up like the other shareholders), and nothing done to realise a profit at all, much less the 10s. or 20s. per cent. which was promised in the prospectus—not even possession of the mine obtained. What has been done with all this money? If Mr. Crawshaw Bailey has received it, he ought to comply at once with the terms of the sale. If he has not, he is bound, in justice to himself, to explain how the matter stands, and, perhaps, relieve the fears of an unfortunate—*SHAREHOLDER*.

THE ABERAMAN IRON COMPANY.—Two letters appeared in last week's *Journal* from shareholders in this company suggesting legal proceedings against the directors. As a shareholder myself, I should, for the interest of all concerned, advise that we wait a little longer before taking any steps against the directors. First let the shareholders learn what the board have done, and also what they intend to do; otherwise we may be running our heads against a post. Let the shareholders remain quiet until another call is made. By that time there must be a meeting; then we shall know where we are, and also what steps to take for our protection.—*ANOTHER SHAREHOLDER*.

ABERAMAN IRONWORKS.—As a shareholder in this company, I very readily agree to the suggestion of "A Deluded Shareholder," in last week's *Journal*, that we combine to file a bill in Chancery to compel the promoters to refund the money subscribed, and I am prepared to hand over my cheque for 10s. (or 20s., if needed), to test the validity of the proceedings. My address may be known on application to the *Journal* office.—*AGENT*.

REARWATER IRON AND COAL COMPANY.—About thirty years ago this company was brought out, and by the agency of a kind friend, I was induced to take 50 shares of 100l. each. While most ironmasters have been getting very rich during that period, we have been getting awfully poor. My 5000l., if invested in a fair business paying 10 per cent. per annum, would now amount to about 85,000l. This company is now winding-up, and I am obliged to take 700l. for my 100 shares or go into Chancery—a pretty considerable difference between that and 85,000l. At the time of dissolution the figures stood as follows:

8000 shares of 100l. each, paid up	£400,000
Mortgage on and over all the property	125,000
Debtors due	35,000
Money borrowed of shareholders	6,500
Bills payable, loans, &c.	95,000 = £661,500

A small portion of the property was freshhold, the remainder leasehold, and for which a rent was payable of about 8000l. per annum. If this company had been in the hands of a good ironmaster, I dare say he would have become very rich.—*E. J.*

MINING CIRCULARS.—I am constantly in receipt, at my private residence, of circulars and prospectuses by post. This to me is very annoying, as I like to confine business to my office. I have this week had two prospectuses of one company addressed to me; and, on making enquiry, I find that the concern has been before the public for a long period, without succeeding in getting the shares off. But this is not so vexatious as the receipt of various circulars, which contain puffing articles on a variety of schemes which the concoctors have not the courage or honesty to introduce through the regular channels of publication. From an extensive experience, I may counsel parties to be extremely cautious of, indeed altogether to avoid, all matters which come under their notice in such a questionable form as "PRIVATE."

CONFUSION OF THE MAN-ENGINE.—I was glad to see that Lord Kinnaird has put in a rule that the man-engine shall be employed in all mines in Cornwall, for I believe that if such a rule had been in force twenty years ago I should not have suffered as I have from asthma. So that I believe climbing hurts a man—in fact, I think that after he has been still in an get for eight hours a little exercise would do him good—but the thing is, a man gets heated with climbing, and catches cold when he comes to grass. It is catching cold, not climbing, that hurts him, and that is why I should like to see the man-engine in every mine. If you come up on the man-engine you are just as cool as when you started, and you would not catch cold if you came up by it every day for fifty years. A *DOLGOATH MINER*: April 11.

CLIMBING LADDERS SUBSIDED.—Lord Kinnaird's Bill ought to be passed, if it be but for one thing—getting rid of ladders. Fully ten years ago I invented a beautiful substitute for ladders—a safety-skip, which if it had been adopted would have made loss of life by falling from ladders impossible. It was tried on a small whim-shaft, and you could run up a load of ore with it like steam, and yet it had got such a safety-clip that if you had broken the rope a dozen times a day no one would have been hurt, whether he was in the skip or in the shaft underneath. Now, I say that when a man invents such a thing as this—something that must save life, or even if did not not of too much to the mine agents, and they will never use anything unless their grandfathers or great-grandfathers used something just like it. As to what "A Well-Wisher to Mining" says about no one connected with any mine being admitted to the mine, I think it is only partly right. I do not consider any one engaged at the mine admitted upon such an arbitrary, but I do not see any objection to shareholders. My opinion is that if the use of improved machinery were left in the

hands of shareholders, and not of mine agents, it would be much better for all parties, and we should see much less antiquated machinery on our mines. From the facilities of getting it, the English miners ought to have the best machinery in the world, instead of which they have about the worst, I suppose.—*INVENTOR: Fuzistock, April 12.*

THE GOVERNOR AND COMPANY OF COPPER MINES OF ENGLAND.—In the details of the proceedings of the general meeting, which appeared in last week's *Journal*, it was reported that assents to the proposed amalgamation of the ordinary and preference stock had been received from the holders of four-fifths of the preference shares, and that the remaining one-fifth was held by ten dissentients. The report should have stated that the one-fifth was held by ten dissentients and by others who were neutral in the matter, and that those who were neutral held by far the larger proportion.

OFFICIAL SUPERVISION OF METALLIFEROUS MINES.—"T. B." (Liskeard) will, upon perusal of the remarks accompanying our abstract of Lord Kinnaird's bill, see that the *Journal* expresses no opinion favourable to the bill or otherwise; they merely state his lordship's feelings upon the subject. "T. B." and the several other correspondents for which this reply will suffice, must understand that Lord Kinnaird is highly desirous of ascertaining the objections to the bill entertained by miners, and that had we expressed a decided opinion adverse to the measure it might have caused many to neglect to bring forward adverse arguments, which may now be elicited; the effect of which will be to enable his lordship to introduce remedies, or at least meet the objections. We may repeat that we shall be glad to give publicity to communications commenting upon the bill, whether by its supporters or opponents, and are convinced the free expression of opinion will be most beneficial for all parties concerned.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

** With the *Journal* of April 1 we gave a **SUPPLEMENTAL SHEET**, which contains a Paper on Mining Machinery—Boring and Coal-cutting Machines; Proceedings at the South Wales Institute of Engineers Meeting; the Millwall Ironworks, Shipbuilding, and Graving Docks; the Mineral Resources of Mexico; the London Gas Companies; the Association for the Prevention of Steam-boiler Explosions; Foreign Mining and Metallurgy; the Invention of Cylinder Foundations; Manufacture of Zinc, &c.

THE MINING JOURNAL *Railway and Commercial Gazette.*

LONDON, APRIL 15, 1865.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

APRIL 13.—In the greater part of the South Staffordshire district the men have returned to work on the withdrawal of the Lock-out by the masters, but in the neighbourhood of Wolverhampton this is not the case. The puddlers there have been gradually separating from the Brierley Hill executive, and last week decided not to return to work until after they had met on Saturday. Accordingly, they assembled on Saturday last, to the number of about 130, and the Chairman, in very proper remarks, observed that "as the men were to meet their masters again face to face, he trusted that all bad feelings would be annihilated—that from their minds and hearts all bad thoughts and feelings would be driven into oblivion for ever. Men must move with the times, and no longer indulge those thoughts and feelings, nor use those expressions relative to their employers which were occasionally heard, but which, when they were indulged in, were a serious reflection upon not only the individual, but also the order to which he belonged. The ironworkers must show themselves respectable men, and by their temperate words and conduct exhibit their growth in intelligence and education." These remarks, which are very appropriate to the present state of feeling between masters and men, are most creditable. A puddler then addressed the meeting, and urged that before going to work they should establish Courts of Arbitration, with a view to settle any disputes between them and their masters, without having recourse to what they very properly termed the barbarous and eventually injurious process of strikes and lock-outs. A resolution to this effect was agreed to, all the speakers indicating that the question to be settled by arbitration was that of wages, and expressing their strong opinion that if they had such Courts of Arbitration they should get at least half the amount of the last reduction added to their wages, if not the whole. After the resolution had been passed Mr. Samuel Griffiths, who had at a meeting endeavoured to induce the men to return to the works and offer themselves for employment, and so impose on the masters the onus of continuing the lock-out, was admitted into the room, he being in the inn; and when he was informed of the resolution passed, expressed his approval of the principle of arbitration, but urged that the decision not to return to work until a Court of Arbitration shall be established was unwise, as it must cause great delay, and the matter could be as well discussed when the men were at work as when they were at play. It was then agreed to modify the resolution by making the return to work dependent on the masters promising to establish a Court of Arbitration. Subsequently the Mayor of Wolverhampton was seen, and asked to invite the ironmasters of the locality to meet the men on Monday, but they stated in reply that, as they were members of an association, they could not act separately, but agreed to meet a deputation of the men at the Swan Hotel, Wolverhampton, on Wednesday, that being the day for holding the Quarterly Meeting of the Iron Trade. By a misunderstanding, at the appointed time the men were not at the Swan Hotel, and the Mayor could not find them, and it turned out just as the masters, after waiting for an hour, had left, that the men had been at a public-house, and it was stated that Mr. S. Griffiths had found them a room there to stay in. However, the meeting did not take place, and the matter remains in abeyance. The masters, however, stated that they should be happy then, or at any time, to see the men at their works, as they always had been; but they thought as there was no dispute that the men should return to work.

This proposal is worthy of careful and respectful consideration; but it is clear that the men are wrong in making even a promise that the masters will undertake the establishment of Courts of Arbitration a condition of returning to work. The whole question is as yet a mere floating speculation, and the objects and nature of the proposed courts by no means defined, and it is impossible that anyone can give a promise to establish that which is not even conceived by anyone in any clear shape, much less drawn out in practical shape, with a view to practical working. The speaker who proposed the resolution at the meeting of puddlers, on Saturday, referred, in proof that it was practicable to form such courts, to a code of regulations recently entered into by the master builders of Wolverhampton with the joiners and carpenters, by which the hours of work, the rate of wages, for ordinary and overtime, &c., are laid down; and it is provided that "all trade disputes shall be settled by an equal number of delegates from the masters and men, who shall appoint an independent chairman, with a casting vote." They have, fortunately, secured as their chairman and umpire Mr. Rupert Kettle, the County Court Judge of Worcestershire, and there seems good grounds for hoping that they may by this means avoid strikes for some time to come. One provision is that the rules should continue in operation from the 1st of May for a year, and that if either party should desire an alteration in them on the next 1st of May, they should give notice of that in the month of January, so as to give time for discussion. This, if acted on, will prove of great advantage, but it is clearly only an honourable understanding.

One of the rules is that "One working day's notice shall be given before a man leaves an employer, or before a master discharges a man." The result is clearly that in a legal point of view the agent is an agent from day to day. It binds those who assent to it for that period only. The men might all say to their masters on Monday night, or perhaps, on Tuesday morning—"We shall all leave after to-morrow night, unless our wages are raised;" or the masters might, with the same legal freedom, say—"You shall all cease work to-morrow night, except you assent to a reduction of wages." It is not likely that this will be the case. It is very probable that, at any rate for some time, the understanding will be adhered to; but the puddlers who urged that there should be an agreement which could be decided on in a court of justice, evidently misunderstood the effect of this joiners' code, which they set up as a pattern.

The French Courts of Conciliation do not decide on the question of wages, that is, the terms of contracts, but only as to the carrying out of contracts which have been entered into. It is clearly the right way to go to work, and then quietly discuss the question of Courts of Arbitration.

The Quarterly Meetings have been very dull, and the Iron Trade is exceedingly flat. The principal subject discussed at the meeting was "puddling by machinery," and reference was made to what is now doing at Dowlais, sanguine opinions being expressed that there was little doubt of

success. The ironmasters are now beginning to feel that they cannot afford to risk another conflict with the puddlers if, by any means it can be prevented, and are, therefore, now as eager for machinery as they have previously been opposed to it. In North Staffordshire it is said that a good many puddlers are going to work.

DUDLEY AND MIDLAND GEOLOGICAL SOCIETY.

The ordinary monthly meeting of the members of the Society was held at Dudley, on Tuesday, Mr. SILAS BOWKLEY, F.G.S., in the chair.

Mr. H. Johnson Dudley read a paper, entitled "Suggestions as to the Means of Extending the South Staffordshire Coal Field." This was a continuation of a paper communicated to the Society in 1863, and which mainly referred to the extension of the coal field in the direction of Birmingham and Hales Owen. Since the reading of the last paper, five new sinkings have been commenced in that district.—Messrs. King and Co., Cradley Park; Swindell and Co., Homer Hill; Geo. Pell and Co., Wasell Grove; New British Iron Company, Hawne, and J. S. Dawes, Manor Farm, Hales Owen. It is calculated that if these sinkings are successful, at least 4000 acres will be added to the productive area of the coal field. The district between South Staffordshire and the Shropshire coal field, covered with Permian and New Red Sandstone, occupies an area of 357 square miles, or 222,000 acres. This vast tract is bounded on the east by the South Staffordshire western boundary fault, which is a down-thrust east, and brings in the Permian with the coal measures dipping underneath. On the Shropshire side this tract is bounded by a line of fault, which is a down-thrust east. On the whole, the geological conditions to the Shropshire side are quite analogous to the South Staffordshire district, the Permian resting unconformably on the edges of the coal measures. Perhaps the most convenient place for proving this district would be near the Great Western Railway, at Alkington. A shaft of 12 or 14 feet in diameter might be put down from 600 to 700 yards for a sum not exceeding 40,000l. This might be raised if the landowners of the district would subscribe 7s. 6d. per acre upon 110,000 acres. The smaller owners might thus be left out, and still sufficient money be raised, and the proof might be made in three years. The author could speak with confidence, from the fact that at his suggestion some such project has been adopted in the south end of the coal field, and is answering every expectation. The suggested capital would, of course, be returned if the trial proved successful. The whole business might be managed by a committee, consisting of landowners and coal and iron masters, with an efficient staff of practical and energetic officers. If the coal measures of South Staffordshire should be proved to enter it under this area, the yield is estimated at two thousand millions sterling, and the landowners' royalties would amount to one hundred millions sterling. This district is four times the area of South Staffordshire. These suggestions will, probably, be ridiculed as purely visionary; but the practical value of the Cannock Chase coal, the Utterston hematite, the Northampton iron ore, the North Wales Canal, and the Cleveland iron ore, were all pool-pooled in their turn. The tract of country lies between the South Staffordshire and Warwickshire coal fields. This district is bounded on the west by a fault running from Breton to Hales Owen, which is a down-thrust east, with the coal dipping underneath the Permian. The east side of the tract is bounded principally by the workings of the various Warwickshire collieries from Coventry to Tamworth, and many of such collieries are now raising coal from underneath the Permians. The area of this district is about 230,000 acres, and, perhaps, the most eligible spot for the trial would be between Sutton Coldfield and Castle Bromwich. It is probable that the coal measures extending beneath this area, are undulating in character, and hence, in many places, they may lie at a comparatively small depth from the surface. The author trusted that by the close of the present season many additional facts bearing upon this subject would be collected, and suggested that in the autumn a meeting should be held for the purpose of discussing this important subject.

The next paper was read by Mr. S. Allport, Birmingham, on "The Distribution of Organic Remains in some of the Upper Silurian Rocks." The paper related to two beds of the Upper Silurian series—the Wenlock or Lower Shale, and the Lower Ludlow or Upper Shale. These are strata of the same lithological character, both being deep sea formations, and, as far as we can judge, they were deposited under similar circumstances. As they are everywhere found to be conformable with the intervening Wenlock limestone, and, consequently, with each other, they appear to form one continuous series. Though these beds have Warwickshire localities. This district is bounded on the west by a fault running from Breton to Hales Owen, which is a down-thrust east, with the coal dipping underneath the Permian. The east side of the tract is bounded principally by the workings of the various Warwickshire collieries from Coventry to Tamworth, and many of such collieries are now raising coal from underneath the Permians. The area of this district is about 230,000 acres, and, perhaps, the most eligible spot for the trial would be between Sutton Coldfield and Castle Bromwich. It is probable that the coal measures extending beneath this area, are undulating in character, and hence, in many places, they may lie at a comparatively small depth from the surface. The author trusted that by the close of the present season many additional facts bearing upon this subject would be collected, and suggested that in the autumn a meeting should be held for the purpose of discussing this important subject.

As there was not sufficient time for the discussion of the paper, it was resolved, that the matter should stand over until the next meeting. Votes of thanks were given to Messrs. Johnson and Allport for their valuable papers, which will be duly printed in the Society's "Transactions."

Mr. Johnson exhibited some beautiful specimens of Calamites, Sternbergia, Ulodendron, Titanitum, &c. Mr. Capewell sent specimens of fish scales and teeth from the coal shale of Russell's Hall; also a new genus of fossils from the Upper Silurian rocks.

The Secretary stated that at the next meeting several valuable papers would be communicated relating to improvements in puddling iron, chiefly by mechanical appliances. He also announced that a satisfactory arrangement had been entered into with the Mechanics' Institute, by which the museum would be extended, as indicated on the original plans of the building.

A vote of thanks to the Chairman concluded the proceedings.

REPORT FROM DERBYSHIRE, YORKSHIRE, AND LANCASHIRE.

APRIL 13.—The prospect of the establishment of a Court of Arbitration, for the settlement of disputes in the Iron Trade, has given much satisfaction to the men, and the masters generally not being unwilling to come into the arrangement, it is to be hoped that struggles such as the trade is just now emerging out of will for the future be avoided. A great fact has been established, that the Union funds are not, and cannot possibly be, maintained for the support of the men. In Staffordshire the allowance impoverished it, the sum per man beginning at 10s., and running down to 1s. 6d. The quarterly meetings are now being held, and the reports are that only a moderate amount of business has been transacted. The Lock-out has caused several districts in these counties to be very busy, Leeds and Manchester in particular; but as soon as matters are settled the trade will, probably, revert back to its old channels. There is a good enquiry for plates and railway ironwork, both for home and the Continent, but in other respects the trade is quiet. The large locomotive builders are exceedingly busy, and the increase in the demand for rolling-stock is remarkable, considering the amount of production which has been going on for the last three years. The new ironworks, the property of Messrs. Richardson, Johnson, and Co., at Thornaby, have just been partly completed. The works comprise 20 large puddling-furnaces, of the newest design, with rolling-mills for angle-iron, rails, and bars of the larger sizes. As soon as the works can be put in full operation they will afford work for a large number of hands. The Great Northern Railway Company have just arranged for the purchase of 30 acres of land at Doncaster, the property of the Corporation of that town, which is to be used in the erection of a new coal station, sidings, &c., the present one being intended for the convenience of the goods traffic. These new works will be a great advantage to the coal owners of South Yorkshire, as the traffic will be greatly facilitated.

The Tipton Coal and Coke Company (Limited) have just commenced the erection of their new plant. The works above ground are intended to be of the most substantial character, and we hear that estimates have already been entered into, amounting for engines and general plant to about 5000l. The company have become possessed of the mineral ground from their works at Neobold to the Locksford pits, which adjoin the Midland Railway and the canal, so that there is railway and water transit for the coal and coke. There are a number of coke ovens which were left standing when the old plant was removed. It is also intended to make an underground communication from the Neobold Works to those at Locksford, which, when completed, will dispense with land carriage, which now forms a considerable item, as the material has to be carted a distance of about two miles. These works were originally started by the great Stephenson, the railway engineer, and they were carried on until a few years ago. The Coal Trade is still active, and the demand for hard coal undiminished. Prices are well maintained.

The Derbyshire lead mines are being developed with a quiet energy, which is very commendable. There is a movement now with regard to Mill Dam which would portend something advantageous. There is an enquiry for shares by those whose knowledge of the locality of the mine and mining generally is such that they would not be likely to make any great mistake. It is said that the financial position of the company is such as to enable them to declare a dividend. We have had no opportunity of verifying the rumour, but now that the lawsuit in which the company was involved is settled, and the mine yielding well, it is more than probable that a dividend will be paid shortly.

The applications for Letters Patent include—Mr. George Rydill, Dewsbury, for steam-boilers, steam-boiler tubes, sides of steam-boilers, flues, and furnaces; Messrs. Samuel Smith and J. W. Jackson, of Kelghley, for governors or regulators for steam or other motive-power engines; Messrs. William, Edward, and John Gray, of St. Philip's Works, Sheffield, for the manufacture of pig-iron, stocks, or points for ploughs, cultivators, or scurill-furrows, and other implements used in the cultivation of the land where these points are used or required; Mr. Alfred Homfray, of Witley Lodge, Halesowen, for the mode of making or forming the links of iron or steel chains and chain cables, and for machinery to be used therein; Mr. T. Turton, of Sheffield, for machinery for cutting files.

There were several cases tried at the Assizes at Leeds involving charges of manslaughter against colliery managers, but convictions failed.

TUNNEL-DRIVING MACHINE.—A highly interesting experiment, and one which is looked forward to with the deepest interest by all persons connected with excavations of hard substances in railways and quarries, is just now being tried at the seat of Mr. W. B. Beaumont, of Upper Wood Hall, Wakefield, near to the South Yorkshire line of railway. It is a machine patented by Captain Beaumont (candidate for South Durham), of the Engineers, for driving tunnels in stone by machinery. The result has been highly satisfactory, and has given evidence of the possibility of obtaining by this system a rate of progress altogether beyond anything effected in hard rock. There appears little doubt but that 2 yards may be regu-

lary driven in eight hours. The system pursued is briefly as follows:—A series of cutters, or jumpers, are arranged around the periphery of a strong iron wheel or bore head, which latter is also armed at its centre with a single tool. The system is set in motion by steam or compressed air, acting through the medium of a piston and cylinder, with its necessary accessories of valves, &c., giving a series of heavy blows, while at the same time the bore-head rotates slowly on its axis, thus cutting a continuous channel or groove, which isolates a cone-shaped mass of rock; the centre tool, or jumper, has meanwhile cut a central hole capable of containing a sufficient amount of powder to shatter the rock thus left free to receive the full force of the explosion. The diameter of the tunnel now being cut is 5 ft. 2 in., and the tools or jumpers being the outside of everything, the machine can readily follow the bore-head carrying them. During the week, in one day, the machine had completed 9 ft. 6 in., the last 25½ in. being cut in 1 hour 40 minutes, and the time taken by one man in breaking up the mass (after the charge had been fired) and passing it through the bore-head was 1½ hour. It is needless to remark that this is irrespective of the time taken in manipulating the machine and jumpers, which as at present arranged constitutes by far the longest part of the whole operation. Mr. Bacon, however, who is conducting the experiments on the part of the manufacturers, Messrs. Bryan, Donkin, and Co., already sees many ways of increasing the mobility and handiness of the machine, which appears, imperfect though it is, to have already exceeded in point of speed the anticipations of its projectors.

REPORT FROM NORTHUMBERLAND AND DURHAM.

APRIL 13.—The Coal Trade here continues to progress well, and, in consequence, new seams, and especially deeper seams, are eagerly sought after. The services of professional borers are in much request, and they are well employed, as several bore-holes are going down, and others are projected, some of them of great importance. The winning of seams below the Hutton seam, or Low Main seam, is the most important movement of the day in connection with the discovery of new seams of coal in this district. During the past year this has been accomplished at the Ouston Colliery, and the discovery has very much increased the value of this thriving concern, which, together with the Birtley Ironworks, is conducted mainly by Mr. Perkins, the present very popular Mayor of Newcastle-on-Tyne. Previous to the finding of the Busty seam at Ouston it was found at Pelton Colliery, a little to the south, and a hole is now projected at the Kibblesworth Colliery, the latter works adjoining the Ouston on the north-west side. The discovery of this seam is, therefore, steadily progressing northwards and eastwards, and will, there is little doubt, lead to still further discoveries eastwards, and also of seams at greater depths. As such marked success has resulted from these trials at the points we have indicated, it is only reasonable to suppose that similar results will follow from such trials in the Derwent and West Tyne district as were lately pointed out in the letters of Mr. Robson in the Journal; and, should his opinion prove correct, which certainly at present appears to be probable, that the Busty seam in the Marly Hill district is below the Low Main, important discoveries may be expected ere long in the West Tyne and Derwent district. The High Main water continues to be a bugbear on the Tyne of the greatest magnitude; but it has not risen lately, and it is the opinion in some quarters that, should a dry season ensue, which is most probable, after a long inclement and wet winter, it (the High Main water) will go back to the level it held about June, 1864, which is the same, or nearly so, it held for some years previous to that time.

The Coke Trade is in such a state of activity as has not been witnessed for many years, and of course great exertions are made to get coking coal. The extensive coke works of Messrs. Strakers and Love, at Brancepeth, and the neighbourhood, are fully engaged; they are, indeed, put to their utmost extent of production, as the demand is at present quite unprecedented. The firm mentioned have lately sunk a new shaft near Brancepeth, and won a more extended field of coking coal, which will be worked forthwith in the most active manner. A considerable field of coal has also been leased lately in the same district by a private firm, and a trial shaft is being sunk, which is expected shortly to reach the coal, so that a considerable extension of the coking coal trade may shortly be looked for in that quarter.

The large plate mill, consisting of ponderous and powerful machinery, driven by an engine of 80-horse power, has now been started at the works of the Hartlepool Rolling Mill Company, erected by Messrs. Head, Ashby, and Co., and for the first time shipbuilders' plates have been manufactured at Hartlepool. This mill, and a smaller one just completed, are estimated to produce 300 tons per week. The steam engines now at work include two large engines, 26 and 32-inch cylinder, from the Kirkstall Forge, and the fly-wheel is 25 feet diameter, and weighs upwards of 55 tons.

REPORT FROM MONMOUTH AND SOUTH WALES.

APRIL 13.—The staple trades of the district continue in a moderately satisfactory state. There is no change to record in the Iron Trade since last week's report, excepting that prices are now quite stationary, and unless the spring demand be remarkably brisk there is no likelihood of any further advance taking place. The prospects of the spring and summer trade are, upon the whole, tolerably good. America is still an insignificant customer, and the exports from South Wales to the Northern States during last month did not reach 1500 tons. It is gratifying to report that the relations between masters and men in this district are of a satisfactory character, and Wales has up to the present been saved from the ruinous consequences of disputes such as have been witnessed in Staffordshire during the last few months. For coke plates there is an average sale at the current quotations, and makers have been selling considerably of late. Charcoal plates are a drug in the market, and go off but slowly. The steam coal collieries are in pretty regular employment, and the books of the merchants are well filled with orders. There is a more active export demand than was the case a fortnight ago, and home buyers are purchasing more freely. A considerable increase in the demand from the mail packet companies is expected before the year is over. Prices are firm, more especially for steam coal of superior quality. In house coal, the extremely genial weather which has so suddenly set in has not in the least affected the coasting demand; but, as might be naturally expected, the local sale is not so good. Red ash is quoted 9s. 6d. to 10s. 3d., free on board, and other qualities in proportion. Preserved coal and patent fuel command a fair enquiry, and the shipments from Newport and Swansea are comparatively large. The usual activity is evinced at the local foundries and iron shipbuilding yards.

Brief reference was made in my last to the opening of the Gellia-Cad-oxton Colliery, and in connection with the locality in which it is situated, I may add that it is not intended that the South Wales shipping ports shall be permanently almost the sole outlet for the coal. It will be remembered that at a recent meeting of the Swansea Harbour Trust, Mr. Grenfell referred to the great benefit which the large freighters had derived from the competition of the London and North-Western and the Great Western, and pointed out the necessity for independent routes from the South Wales coal field to Liverpool. It may now be mentioned that, in addition to any steps which may be taken by Mr. Grenfell and his friends with a view to counteract any inconvenience that might arise from the amalgamation of the Vale of Neath and Great Western, it is intended ere long to form another and shorter route than any at present available, via Swansea Valley and the Neath and Brecon Junction; this will do more than anything else to open up an entirely new district, and develop the great anthracite coal fields of the Swansea Valley.

The emigration mania has commenced at this early period of the year, and it is a frequent occurrence for 20 or 30 to leave after every pay at the principally iron and coal works. Many of those who leave are assisted by the American Emigrant Society, whose operations are being gradually extended by means of local agencies throughout the whole of the Principality. This society, it appears, was established for the purpose of obtaining men to order for the great employers of labour in the Northern States, and a very good thing the agents seem to be making of it. As an idea, even, of what honest Americans think about the society, it may be mentioned that the Mayor of New York has publicly denounced the bait held out to emigrants, and he states that he looks upon the efforts now being made to bring over men to America as exertions to paralyse the labour market, and furnish men who are destined to be "food for powder." Let our miners take heed of this.

The affairs of the Aberaman Iron Company (Limited) continue under a cloud. The directors have not yet obtained possession of the works, and it appears that Mr. Bailey has only been paid 50,000l. out of the 150,000l. which he is to be paid before giving up possession. It is reported on good authority that Mr. Bailey has consented to reduce the original price by 40,000l., in consequence of the property being found of less acreage than represented by the parish maps.

SWANSEA.—The advent of warm weather has had the effect of stirring trade, which is now exceedingly brisk in all departments. The arrivals of vessels during the past week have been considerable, and freights are in active demand. Among the recent indications of material progress is the addition of an extensive foundry to the already gigantic works of Mr. Charles Lambert, Port Tennant. These works are already famous for their make of copper, and in other branches for which they are distinguished; and the considerable additions and extensions which have lately been made are an indication of their acknowledged superiority, and of the great ability with which they are managed. The death of Capt. Petrie, who for many years conducted the business of the Cobre Company at Swansea, is now generally known and regretted. His successor has just been appointed, the choice of the directors having fallen on Mr. Trewellen, for some years chief accountant in the Cobre office, at Swansea. Mr. Trewellen is highly respected here, and his appointment is regarded as a proper acknowledgment of unwavering integrity and untiring assiduity in the service of the company which he now represents. The company have lost a

valued servant in Capt. Petrie, but they will find in Mr. Trewellen an able and a worthy successor. It is stated that the Cobre Company (one of the most important firms in the copper ore trade of the port), intend extending their operations in Swansea considerably. Mr. H. Beant has removed from the general superintendence of the Great Western Railway, and is succeeded by Mr. Kelly, as general manager.

TRADE OF THE SOUTH WALES PORTS.—The returns for the month of March have just appeared, and show that a large trade was done at all the ports:—

EXPORTS OF COAL.		March, 1865.	March, 1864.
Cardiff	Tons	129,725	Tons 125,529
Newport	Tons	27,955	Tons 25,235
Swansea	Tons	60,191	Tons 44,561
Llanelli	Tons	17,445	Tons 11,886

The shipments coastwise were as follows:—

March, 1865.		March, 1864.
Cardiff	Tons	79,928
Newport	Tons	55,039
Swansea	Tons	24,847
Llanelli	Tons	19,923

The above figures indicate that there was a good demand for both steam and house coal during the month, and the increase in the exports over the corresponding month is, in fact, more than was generally expected. The quantity of steam coal sent to the West Indian markets showed a decrease, owing, it is believed, to the blockade of Confederate ports, which prevents supplies of coal being sent to the Southern States. France, Spain, Denmark, and Italy figure as large customers in the returns.

The iron exports were as follows:—

March, 1865.		Feb. 1865.
Cardiff	Tons	10,146
Newport	Tons	7,276

Only 1000 tons were shipped from Cardiff to New York during the month, and not a single ton of iron left Newport for the States. Swansea also exported 7724 tons of patent fuel, and Cardiff 4123 tons.

THIN ROLLED SHEET IRON.

It can probably scarcely be expected that sheets of iron thinner than those to which we have already referred will be produced by the machinery at present at the disposal of our manufacturers, and hence it is that some other means of demonstrating the relative superiority of the metal is resorted to—the rolling of sheets of the minimum thickness, and production of them of the greatest possible size without flaw or irregularity. It will be remembered that the Sligo (Pittsburg) Ironworks thin plate measured 42 square inches on surface, and weighed 69 grains; this has since been surpassed by Messrs. T. W. Booker and Co., of Cardiff, whose plates of the same size weighed but 62 grains, and were much thinner; Messrs. Nevill and Everitt, of the Marshfield Black Plate Works, Llanelli, next reduced the weight to 49 grains, and Messrs. Hallam and Co., of the Upper Forest Tinworks, Swansea, succeeded in getting plates of 44 square inches surface to weigh but 46 grains. Those accustomed to handle the minute weights used in the chemist's laboratory will at once comprehend the thinness of the metal, even of the substance made by Messrs. Hallam, when they consider that a one-grain weight would be as large as a halfpenny, yet Messrs. Hallam's plates are thick compared with those which have since been rolled. Messrs. R. Williams and Co., of West Bromwich, produced plates measuring 69 square inches, and weighing but 49 grains, and this was followed by the Hope Company, of Tipton, rolling 89 grains of metal into a plate measuring no less than 118 square inches. The plates produced by Messrs. Williams attracted especial attention from their being rolled in their ordinary sheet iron rolls, and from common iron, or rather from the iron commonly used by them, for there can be no doubt that its quality was excellent.

Assuming that the 2000th of an inch is about as thin as iron can be rolled in sheets of more than a few square inches surface, the Hope Company have tried the experiment of producing a large plate of that substance, and we have this week received from them a very beautiful specimen 2 ft. 2 in. in length and 8½ in. wide, the surface contents being, consequently, no less than 221 square inches; and we understand that the managers are sanguine that they will succeed in rolling similar sheets 60 inches long. The iron appears to be of excellent quality, and with the exception of one or two extremely fine holes, which are observable upon placing a strong light behind it, the sheet is perfect. The weight is somewhat under 178 grains, which is at the rate of 1.25 square inches to the grain. Compared with the thinnest tissue paper that can be purchased, the iron is so thin that it would require five sheets of the metal to amount to the same thickness as three sheets of the tissue paper. Whether further efforts will be made in the same direction, of course, we do not know, but we think it must be admitted that whether in the production of thin iron or of thick, for it must be remembered that it was the 13½-inch armour-plates of John Brown, of Sheffield, that led the Sligo Works to roll their thin sheet, the English manufacturers are thoroughly able to produce any quality that may be demanded of them.

THE STONE COAL OF BOHEMIA.

Amongst the countries which belong to the Austrian empire, Bohemia and Hungary are the most important in respect of mineral wealth. In fossil coal Bohemia is decidedly richer than Hungary—indeed, richer than any other Austrian possession; however, compared with other countries, we find that it is not so rich as the neighbouring Prussian Silesia—perhaps scarcely richer than the kingdom of Saxony, where, near Chemnitz and Zwickau, very excellent coal seams are found under the strata of Permian age. The most important stone coal deposit in Bohemia occurs not far from the capital, Prague, and it is worked in the neighbourhood of the market-places and towns of Kladno, Buschtiehrad, Schlan, and Rakonitz. It is near the two first-named places that the most important mining operations are carried on; whilst at the two last-named, sometimes owing to the thinness of the seam, and sometimes owing to the want of means of communication, the workings are but small. Next to this deposit is the very excellent one in the Pilsen district, which extends from the River Schnelle in the north to southward of the town of Pilsen, and which, for the last eight years, has been very actively worked. In north-eastern Bohemia, not far from the border of Prussian Silesia, the south-western outcrop of the Lower Silesian coal basin is found, upon which in Bohemia, near Schatzlar and Schwadowitz, more or less important mining operations are carried on. There is besides in the western part of the country, and particularly in the neighbourhood of the two first-named stone coal basins, about eight small coal deposits, neither of which is a German square mile (say 20 square miles English) in extent; these lie like islands in the Silurian rocks. The most important is that of Radnitz, or rather Braas, and then come those of Mirotschau and Merklín.

With the exception of the north-eastern coal deposit, which, as a portion of the Lower Silesian coal basin, at least in its lower part, is of marine origin, the coal deposits of Bohemia are decidedly fresh-water deposits. Hence the numerous irregular deposits on the border of the Silurian formation, the several irregularities in the coal seams themselves, and the want of parallelism in the strata, whether coal, shale, or clay-slate; hence also the change in the irregularities on the border of the Silurian, the number of coal seams and their thickness being very various. Thus Brandeisel, not far from Buschtiehrad, has only one seam of something over 3 fms. thick, whilst the Buschtiehrad mines, even nearest Brandeisel, have already five seams, of the aggregate thickness of 6 fms. In the neighbouring Kladno, again, there is but one seam, which, however, is 5 or 6 fms. thick. In the Pilsen basin the average thickness of the seam is 1 m. at most, and often it is only 4 feet. At Trzemeszna, not far from Pilsen, one seam of 3 fms. has been bored through. In the little Radnitz basin there is a single very thick seam of 6 fms. and upwards. At a greater distance from the edge of the Silurian the coal seams become much weaker, and have mostly thick sandstone and clay-slate partings, which so divides the coal that it is seldom that more than one seam in each colliery is worked. In the north-eastern field, in the vicinity of Schwadowitz, three sets of seams are worked, the partings between the seams not being very thick; it is the same near Schatzlar. The coal from this field is decidedly the best in Bohemia, although not so good as that from Waldenburg, in Silesia; it is known, also, for its coking properties, which, unless exceptionally, the coals of Western Bohemia does not possess, and it also contains a very small percentage of ash.

This defect with the stone coal of Western Bohemia is the more annoying, as here the Silurian formation is accompanied by a large bed of iron ore. We will here only mention those of Aueval, Nuzitz, Kruzsnahora, and Eipowitz. These beds there give, through their change from diorite and schalstein, an ore containing much silicious matter, and which can, therefore, be converted into pig-iron of only medium quality with charcoal. The quality, therefore, of this iron would be very low when smelted with coke from the very ash coal of Kladno and Buschtiehrad. It was, therefore, the natural consequence that the large smelting-works at Kladno, erected on Belgian models, failed to be profitable, and that at last the owners should be glad to forego 88 per cent. of the nominal value of the shares,

being able to employ the funds thus obtained much better and more profitably in other Bohemian mining operations.

At Merklín there is also a coal capable of conversion into coke, but here, as in North-eastern Bohemia, there is too little iron ore to admit of the establishment of furnaces for smelting with coke; we must thus conclude that there is not a very favourable prospect for coke-iron making in any part of Bohemia. The Bohemian stone coal collieries can only look to supplying fuel for manufacturing and domestic purposes; and in this direction the completion of a network of railways in Bohemia is much needed, but not less than increased attention to the numerous roads and other ways. By this means alone can existing obstacles be removed, whilst in the meantime the colliery workings of Western Bohemia suffer from want of a market, and the manufacturing district of Northern Bohemia must submit to very high prices for the necessary fuel. The closest connection of the Bohemian coal district with Vienna is of the first necessity, and also an adequate consideration of all the coal basins in Bohemia, and more especially the omission of such palpable preference as has been given by the railway concessions in Bohemia, almost exclusively to the works of Kladno and Buschtiehrad.

FOREIGN MINING AND METALLURGY.

There is not much to report with regard to the present position of Belgian siderurgical industry. It is no longer anticipated that that industry will incessantly expand, but it is not necessary in consequence to indulge in gloomy anticipations; on the contrary, it is probable that siderurgy has experienced a slight reaction, which cannot last long, as in a few weeks it may be anticipated, or rather hoped, that orders will arrive to stimulate operations in the works. But to accomplish this it is necessary that activity should revive in industry generally, a circumstance which some persons do not consider imminent. It appears necessary, too, that producers should come to an understanding with each other, and not carry on a fatal competition, as production is considerable in Belgium, and a reduction of prices would be very soon effected if producers do not avert it by a perfect understanding with each other. The Belgian works had calculated for a brief space on the disorder prevailing in the English market, but the existence of considerable stocks in the English works and warehouses must delay the delivery of orders of any importance to Belgian metallurgists; and, as the state of affairs in England has improved, there is no longer any hope of opening even a temporary outlet in this direction. The exports of iron, and especially of rails, from Belgium, have acquired of late years a very great development, and have powerfully contributed to maintain the position of metallurgical industry; it is desirable, then, to see these descriptions of exports still further develop themselves. This seems possible, as the era of public works which has now opened in all the countries of Europe leaves a vast field open to the trade. "But," says a Belgian Journal, "in order to deliver iron abroad we must struggle with England; and, in order to be victorious in this struggle, we must come down to low prices, lower than those which now prevail. Can the return price be still further reduced? We do not think it can, as our rolling works employ the most improved processes; raw material, both combustible and mineral, reaches the works at low rates, and labour is not unduly dear. Nevertheless, contracts escape us for very trifling differences of prices—2s., 3s., or 4s. per ton. To attain further reductions in prices something, perhaps, has still to be done—a diminution must be made in transport expenses, as well to the interior as to the exterior of the country. Maritime transports have been improved for some years past, but a simple comparison between what passes in our ports and those of England sufficiently indicates that on this head the last word has not been said. It is also a question whether the Government would take a useful step in extending to rails the reduced rates which it has just granted to coal for maritime export. Like coal, the rails exported are entirely of Belgian production, and the Government is interested in the development of our iron industry as well as in the extension of our coal trade."

The St. Dizier market for pig continues quiet. The sale of iron has appeared to revive a little; some tolerably sustained orders have been received, but none of any real importance have come to hand. Charcoal-made pig is quoted nominally at 4l. 10s. to 4l. 12s. per ton. Rolled iron has been dealt in at 8l. 12s. to 8l. 16s. per ton, first-class. These prices are the general quotations; above and below these prices, however, there is a great deal of business, and the plus-value is explained by the difference which certain merchants consent to this or that mark. We must note, in connection with the sale of iron, a tender, which appears more and more strongly marked, to reduce from four to three months the term of payment; several forge-masters propose shortly to apply this arrangement. A law authorising the acceptance of funds collected by industrialists for the prompt completion of the works of the Haute-Marne Canal has been voted unanimously in a sitting of the Corps Législatif. The greatest activity will be impressed on the works, and it is affirmed that the first section of the canal will be opened next autumn, or, at the latest, at the commencement of the spring of 1866. A Metz letter says:—"The works of our group appear sufficiently occupied. Prices are sustained, rolled iron, first-class, making 7l. 12s. per ton in warehouse at the works; 7l. 16s. to 8l. 8s. per ton, free at Paris, according to contracts and destination; and 8l. 8s. per ton delivered at stations within the radius of the triumvirate: the scale between classes is 8s. per ton. Coke-made pig is dealt in at 3l. 12s. per ton in warehouse at the works; there is no stock." The underwriting known as the Hauts Fourneaux, Forges, et Aciéries de la Marine et des Chemins de Fer, will pay, May 31, the second half of the dividend for 1863-4, or 1l. 8s. per share.

An improvement is noticed generally in the foreign copper markets. On the Paris market a good deal of business has been done at the quoted rates, and the tendency upwards is very marked. English has made 90l.; rough Chilean, 85l.; and Corocoro mineral, 84l. 10s. per ton. At Havre, Chilean is dealt in at rising prices; at 84l. per ton, there have been no more sales, and some affairs are reported which have been concluded at 84l. 10s. to 85l. At Liverpool 33 tons, deliverable at Havre in the second fortnight of January, have been sold at 86l. per ton, Paris conditions; some small lots of Corocoro mineral have made 85l. to 86l. 10s. per ton (pure standard). The following extract from a circular issued by a Havre broker sums up the position of that metal during the past month on that market:—"The receipts from United States sources of supply are much neglected. A small transaction, referring to 6 tons Minnesota, at 101l. 4s. per ton, has been noted during the month; a lot of Quincy, obtainable at 92l. per ton, does not find a purchaser. The arrival of the metal at the end of February in Chilean continued in March, thanks to the somewhat important purchases of consumers, who not being able to do anything more at Liverpool, where quotations are 1 to 1½ per cent. higher than ours, have finally escaped from their reserve as regards our market. The total sales made exclusively for consumption amount to about 900 tons of disposable, for which 82l. 14s. to 84l. per ton has been paid, the last price being for at least 400 tons. Pressing purchases still offer themselves at 84l. per ton, while there are no sellers below 85l. per ton for limited quantities. In deliverable attempts have been made to establish, with success, a price of 84l. 10s. to 84l. 12s. per ton; it is necessary to pay 85l. to 86l. per ton. Notwithstanding the generally admitted opinion that the worst moments are past, speculation still hesitates to enter upon the article; nevertheless, at present rates, and under present circumstances, copper is one of the few articles presenting little chance of depreciation. The stock has notably diminished by deliveries to the works, as well of bars as of mineral; some small lots in bars have even been exported. The quantities likely to reach us between the present time and June, a period when stocks begin to be reduced, will be easily absorbed by consumption, irrespective of current purchases. The stock is tending, then, to a fresh diminution. The importations of the month—Chilean, 200 tons; English, 200 tons; and 6122 ingots of refined Chilean. Old copper remains without change; the 5 to 6 tons which have arrived during the month have supported former quotations. The stock, March 31, was 115 tons of United States, 400 tons of bars and ingots of Chilean, 400 tons of minerals, and 200 tons from various sources, making a total of 4915, or of pure copper about 4050 tons, against 6000 tons, Feb. 28." At Rotterdam, Drontheim is quoted at 57 fl., and United States at 59½ fl. At Cologne the article appears to occupy a good position, and at Berlin it is also firm. Holders at Hamburg have raised their pretensions in consequence of the advice received from England. With regard to tin, we read in an Amsterdam report:—"The period which has elapsed since our last similar has absolutely presented nothing of an interesting character. Transactions and variations have been insignificant during the month, and, consequently, our observations will be very brief. With the exception of two or three lots dealt in apparently to cover previous sales, first at 57 fl., and subsequently at 56½ fl., no notable affair has transpired. Holders, in the hope of a revival, do not think it right to lower their pretensions, and foreigners, finding it more advantageous to employ Detroit tin, persist in not giving orders. This state of things cannot last, and one of the two parties must give way, but unless some event occurs it is not very likely to force a cessation of this unnatural state of affairs. Sellers could now have for the tin, the deliveries since the last public sale amount to 122,221 ingots, against 89,513 ingots in the corresponding period of 1864, and 125,353 ingots in the corresponding period of 1863. The quantity expected from Java, and which may arrive in April, is estimated at 28,000 ingots." Annexed are details of the stock:—

Stock, Feb. 28		1865.	1864.	1863.
Stock	Ingrats	87,690	61,183	51,740
Deliveries in March	Ingrats	9,640	6,085	7,650

Stock, March 31 48,050 55,098 44,090
The stock for the approaching sale is calculated at 150,918 ingots, against 104,380 ingots at the corresponding date of 1864, and 95,955 ingots at the corresponding date of 1863. The Paris market has been without variation, and very quiet, Banca realising 101l., Detroit 92l., and English 94l. There is some demand at the present rates at Cologne, but at Berlin the article is feeble. At Hamburg tin is more sought after, and maintains itself firmly at former rates. As regards lead, the same state of affairs prevails at Paris; the market is very quiet; rough French has made 20l. 12s. per ton. Quotations of lead at Rotterdam indicate no material change. At Havre, however, there has been rather a notable fall, and purchasers have made default. At Hamburg, in consequence of the stock being small, soft German lead can no longer be obtained below the quoted rates; for delivery, nevertheless, holders would make concessions. The other German markets have been destitute of activity. There have been few sales of zinc at Paris, but prices have been sustained; rough Silesian has made 21l. 16s. per ton. The Breasil market is inactive; it is hoped that the regular opening of the navigation will give more activity to transactions. At Hamburg holders entertain a favourable opinion of the position of the article, and maintain high prices; on the other hand, few purchasers present themselves, and during the last few days scarcely any transaction has been noted.

Without anticipating a sombre and unfortunate future for the Belgian coal trade, it seems prudent to warn those engaged in it against expecting too hastily that the industry has emerged for good and all from the depression with which it has been afflicted—a depression occasioned by an exuberant extraction. It must be added also that measures remain to be taken to render impossible a return of the late state of affairs. One of the means which we have indicated is the maritime export of Belgian coal, and, in fact, Belgian coalowners readily understand that this is a useful and even necessary thing. Some years since the principal outlets for Belgian coal were France and Germany; but of late the French markets of the Nord and the Pas-de-Calais and the German basins, particularly those of the Ruhr—have acquired a considerable development, and have shared the markets of which Belgium was formerly master. This extension continues, and every day the share of Belgium in the general consumption tends rather to diminish than to increase. This is a patent fact which cannot be contested, and in order to sustain itself in these markets, Belgian coal must make continuous efforts and renewed sacrifices. In these circumstances, it is essential to seek outlets beyond the limits of neighbouring countries. A large number of producers are of this opinion, and the Government can, if it thinks

ed so, efficaciously encourage this tendency. Reductions of transport from the inside to the coast are what it must aim at, and which, to do it justice, it is accomplishing.

AURIFEROUS QUARTZ MINING.—No. V.

BY THOMAS DELZ.

Careful and systematic testing of the pulverised quartz is one of the most important points to be attended to in the extraction of gold, and, at the same time, is the one most frequently neglected. Although, as before stated, no reliance can be placed upon assays of pieces of quartz from the lode, yet after it has been stamped up, and mixed together, there is no difficulty in obtaining samples, from a series of which the average percentage of gold can be determined; and the assay furnace ought, therefore, to be in constant use for testing the "tailings," as the waste coming away from the amalgamating and separating appliances is called.

If this were more generally adopted than it is in gold works many grievous mistakes would be avoided; such as the persistent working of unprofitable lodes, under the belief that gold existed in them, but that the proper method of extracting it had not been discovered. A month's regular testing of the waste, honestly carried out, would dispel such an illusion where it existed. Anyone acquainted with the history of gold mining during the last twelve years could point out instances where such a course would have saved thousands of pounds spent in trying to extract gold from lodes where it did not exist in payable quantities. And in other more profitable works it has often happened that a considerable portion of the gold has been lost in the waste which might have been saved if the loss had been made apparent by assays of the tailings. Some large companies find it to their advantage to keep an assayer continually employed, and, acting on the knowledge so gained, have been able greatly to reduce the loss of gold. But in very few works will it be necessary to obtain the services of a professional assayer, as the assay of minerals for gold is a very simple operation, and, with ordinary care, liable to few sources of error; so that, with a little practice, they may be conducted by any manager, or by his assistant. I omit the details of the methods of assaying for gold, as they would occupy too much space for these papers, and I would be but repeating what may be found in any manual of metallurgy. The main object is to obtain a fair sample of the waste, and it is not sufficient to take portions from the slime pits or waste heap, as the gold may have been floated away in the finest slimes to a considerable distance. The best plan is to hold a bucket, or other vessel, under the end of the discharge launder, and remove it as soon as it is filled. If this be set aside until the sediment has settled to the bottom, the clear water then poured off, and the remainder evaporated over a fire, a fair sample of the waste passing away at the time it is taken will be obtained. From a sufficient number of these assayed the average loss of gold will be determined, and this added to the gold obtained by amalgamation will give the total amount of gold in the quartz treated.

Should the loss of gold in the tailings be considerable, the next step will be to ascertain if it arises from too coarse stamping. To do this it is only necessary to pass the dried samples through different sized sieves, smaller than the grating fixed to the stamps, and to assay the various sizes separately; and thus it will soon be determined how much more gold might be set free by finer stamping. If, as is usually the case, the greatest proportion of gold be found in the finest sediment, it will probably have been floated away in the slimes with the sulphurets, and these latter must be tested separately.

For samples of the pyrites it will not do to take portions from the dressing tables after stamping, as the gold coming over from the amalgamators would be caught along with the sulphurets and arseniurets of iron, whether it was originally contained in them or not, but samples must be selected from the lode itself for assay.

By following out this course of procedure, precise data will be obtained for founding calculations upon, and nothing be left to surmise nor conjecture. The mode of treatment will be based upon the result of these experiments, and it will be readily ascertained when it has reached that point where the cost of carrying it further will not be repaid by the additional gold obtained.

In conclusion, I will briefly advert to one other matter that ought not to be neglected in gold mining. I allude to the keeping of correct plans and sections of the different lodes and workings. There are other reasons for this besides the clear exposition such plans and sections give of the workings in the mine. The distribution of metals in lodes appears at first sight to be capricious, and governed by no general laws, but it is not so in reality. In every mining district some guiding principles come through time to be recognised, whilst each mine has generally some characteristic not possessed by its neighbours. It is so in gold mining. The richest portions of the lodes are generally associated with some structural or constitutional peculiarity of the enclosing rocks, or in connection with joints or cross-courses intersecting the lode itself. In properly kept sections of the lodes these phenomena are grouped under the eye, and their relations with each other and with the richer portions of the lodes are easily determined, and thus much valuable information with regard to the distribution of the metallic deposits may soon be obtained.

MINING IN SPAIN.—No. II.

Zinc, which for many years did not figure in the productions of the Peninsula, except as regards the mines of Risora, and the manufactories of St. Jean de Alcaraz, in the province of Albacete, was represented in statistics, collected in 1862, by 41,104 tons of minerals, of which the greater part, after having been calcined, was exported to Belgium and Great Britain. The minerals in question were obtained from St. Ander, Almeria, Grenada, Navarre, Guipuzcoa, and Alva, as well as from Albacete. The metallurgical production was 1883 tons, obtained at the Royal Asturian Company's factory, Oviedo. MERCURY is found only in the provinces of Ciudad Real and Oviedo, the first workings in the celebrated mines of Almaden, conducted by the State, and then those of the Asturias, worked by the Asturian Union, which treats there a very poor mineral, scarcely exceeding 14 per cent. in price: the price of this article on the English market is sustained at a better level than might be anticipated from the pompous statements made with reference to the mines in New Almaden, in California.

The province of Guadalupe alone works mines of SILVER; the ingots of silver of Almeria chiefly from argentiferous lead, treated at the St. Ander works, in the town of Adra. In the province of Caceres some silver has also been obtained, but none in that of Murcia. Some silver which has not been concentrated has been exported in argentiferous lead, the value thus lost being estimated at 160,000l., which figures in foreign statistics, without benefitting Spain, in consequence of the inexplicable idea of burdening with enormous Customs duties the importation of foreign coal, without profit to any industry. None of the gold workings submitted to the regime of Spanish mining legislation appear to have yielded returns, and only the washing of sand in Grenada, especially in the River Sil, in the province of Orense, contributes to a small extent to the total mineral production of the kingdom. MANAGANES, obtained in the province of Huelva, attained in the year 1862 a total of 6460 tons, the whole of which was exported to England. The other metals, such as cobalt, antimony, and arsenic, are only produced in Spain in insignificant quantities.

Among non-metalliferous substances, sulphur, alum, soda, and asphalt remain stationary, although the province of Murcia has produced sulphur to a notable extent. Iron ore figures in the table of productive Spanish mines with a total of 213,192 tons in the year 1862, a total very far removed from that obtained in the other countries in which all branches of industry have attained a greater development. Even from the total of 213,192 tons we must deduct 3544 tons obtained from the province of Murcia, which, being slightly argentiferous, were treated with lead ores. There remains, then, 209,648 tons of iron ore for the year 1862, produced by seventeen provinces, and which yielded 48,406 tons of pig, and 41,058 tons of malleable iron. The principal centres of the production of iron in Spain are Blackaya, Malaga, and Oviedo. The pig obtained in the year 1862 scarcely corresponded to the number of blast-furnaces, which was 50. The quantity of iron ore treated in 1862 was 133,480 tons, and adding 3000 tons from the province of Logroño, we have a total of 136,480 tons, giving a surplus of 78,178 tons. This surplus is explained by an export to England and France, with the view of improving the quality of their respective irons. Mines of combustible mineral occupy but a very small place. Various causes contribute to keep the coal mining industry of the kingdom in this state of depression, which corresponds neither with the necessities of industry, nor with the extension of the carboniferous beds of coal recognised in the Peninsula, nor still less with the number of concessions which have been granted. Thus the number of concessions of productive coal mines in Spain is 244, and they comprise an extent of 18,766 acres, divided between seven provinces, and employing 4233 workmen in 1862, in which year 360,246 tons of coal were produced.

On no carboniferous district in Spain have such interesting and detailed data been collected as those referring to the province of Oviedo, where the superfluous of coal concessions figuring for 13,280 acres, or 32 per cent. The consumption of fuel in the manufacture of iron and the distillation of mercury in the principality amounts annually to be analysed thus:—Local metallurgical industry, 55.40 per cent.; export, 25.55 per cent.; small industries and domestic purposes, 19.04 per cent. The whole production of coal in Spain in 1862 was estimated at 360,246 tons. The production of lignite attained in the same year to 26,699 tons, resulting from 33 concessions, comprising 3918 acres, divided unequally over nine provinces; the most industrious provinces produced the most combustible in the largest quantity. The province of Guipuzcoa yielded the divided 70 per cent. of the total production. The superfluous of the productive concessions of lignite is 21 per cent. of that of coaliferous of the same category. The number of concessions was 6 per cent. of the total engaged in coal mining, and the total extent of coal occupied less than 5 per cent. of that of coal. Each of the productive concessions, and situated an average extraction of 1470 tons. These of lignite employed an ave-

rage of 13 workmen, occupied an average of 136 acres of land, and yielded an average of 636 tons. Each acre produced 10 tons in the coal concessions, and 7½ tons in the lignite concessions, giving an average per workman of 23½ tons in the coal concessions, and 36¼ tons in the lignite concessions.

On the whole, Spanish mining and metallurgical industry did not experience in 1862 any very notable changes, having reference to previous years. The province of Almeria temporarily profited in its eastern part from the shortness of the gallery for carrying off water, which will subsequently traverse the Jaroso vein, so as to place it on the same footing as many other mines. In 1862 the length of this gallery was about 3500 ft., and about 2500 ft. had still to be executed. A great number of workings will soon arrive at the limits to which they can be carried on with the slight mechanical means which they have at present at their disposal, and necessity will soon force them to enter upon more regular and extended operations. In the province of Galicia some experiments were made some years before 1862 in connection with the working of tin for foreign houses. If these experiments should be attended with advantageous results they will contribute to increase the production of this article, which has now greatly fallen off in Spain, and spread the benefits of mining operations in one of the most populous parts of the kingdom, where the extreme division of landed property almost prevents the numerous and laborious inhabitants from satisfying the wants of life. A favourable piece of intelligence has recently come to hand from Badajoz—the discovery in that province of some beds of coal, which are probably a prolongation of those of Cuernavaca and Belmez, the position of which, near the railway which will traverse the province, induces anticipations of more important results than those which have been obtained at other points. The production of iron in Spain has increased, especially since the establishment of the works of Messrs. Duro et Cia. In the Biscayan district a movement was observed some years since, which tended to convert the greater part of the Catalonian forges to other industrial applications. Some of these forges have, however, adopted the Touraquin system, and the district generally shows itself disposed to cement the industrial production which has for several years acquired it a European renown. Not only have great ironworks maintained themselves and increased their means of action, but at the same time other new ones have risen, and allied industries have been developed, thus maintaining a noble industrial emulation in the district, which is in accordance with its customs, its irregular soil, and its rude works of agriculture. The mass of the products obtained by industrial operations in Spain in 1862 represented a value of 1,631,999l., comprising in that sum the value of the minerals yielded by the State mines. The quantities obtained by mineralogical industry represented a value of 2,435,580, and adding to this 1,185,548, resulting from sales made by the Domain department, we arrive at a total of 3,621,095l., this sum comprising, of course, the value of the metals obtained in the mines of the State. A table, formed of data supplied by the civil governors of provinces, shows that the total contributions paid by mining and metallurgical industries, as well in respect to property rights as to the rent of 3 per cent. charged for products subject to that tax, amounted in 1862 to 57,107l. The sum levied in 1862, as the contributions for the year, added to the profits of the mines reserved to the State and to that of the saltworks, showed for 1862 a decided increase.

MINERS' ASSOCIATION OF CORNWALL AND DEVON.

At a meeting of the council of the Miners' Association, held at Redruth on Tuesday, Mr. CLEMENT LE NEVE FOSTER was appointed lecturer, in the place of Mr. Richard Pearce, who has resigned. Mr. C. le Neve Foster appears to be well qualified for the office. He received his education, in the first place, at the School of Mines at Freiberg, and then at the Royal School of Mines in London. In 1858 Mr. Foster obtained the Duke of Cornwall's Scholarship, and in 1859 the Edward Forbes Medal and prize of books. He has, again, recently obtained a scholarship from the University of London. Mr. Foster has been for several years one of the geologists on the Geological Survey of the United Kingdom. At this meeting the following resolution was passed:—That the Council of the Association, while they congratulate Mr. Richard Pearce on his resignation, beg to express their deep sense of his valuable services as their lecturer since the association has been in operation.

REPORT OF THE COUNCIL OF THE MINERS' ASSOCIATION.

The Miners' Association of Cornwall and Devonshire enters upon the fifth year of its active existence. It has laboured under difficulties, and it has had to contend with many prejudices, but, adhering closely to the principles with which it started into life, it has pursued its way quietly, and in most respects satisfactorily. Believing that there was a great desire among the intelligent miners to acquire knowledge, and, finding that the means of doing so were not at their command, it was thought to be an experiment well worthy of trial to offer them the organisation of classes, and the aid of teachers, near to their places of labour. With this object the Miners' Association commenced its work, and the result has been to prove that some education in science was desired by our miners. In every part of this county, and in the Tavistock district in Devon, the miners—especially the young miners—have availed themselves of the aids which the Association could offer. Classes have been formed in nearly every mining district, and much real knowledge has been imparted to the members. In many of these districts the classes are not now in operation; still, our labours are only suspended, and we hope they will before long be resumed. The desire exists as strongly as ever amongst the miners, where once a class has been, to have the benefits of class instruction continued amongst them; and our great regret is that the limited income of the Association prevents it from continuing the advantages which it has offered over so wide a district as that which it has attempted to embrace. Hoping to have increased support to aid it in extending the work of the classes which had been established to teach mineralogy and chemistry, mechanics, surveying, and drawing, the Association ventured to exceed its income, and hence a small debt has been incurred. For the purpose of relieving ourselves from this debt, the mechanical classes have been stopped, and, with one teacher only, the Association contents itself, for a period, with giving instruction in mineralogy and chemistry. It is hoped that by the end of the present year the debt will be paid off, and that the Association will be enabled to extend its operations. At present the classes in full activity are—one, recently formed, at Camborne, consisting of 38 members; one at Mount Hawke, of 10 members; one at St. Just, of 20 members; and one at St. Day, of 12 members. At the commencement of the year there was a most promising class at Gunnislake; its members are most desirous of receiving a continuous course of instruction; and it is hoped that increased subscriptions may soon enable the Association to extend its labours beyond the western division of the county. It is not possible that one teacher can keep more than four classes in active operation at one time. Three lectures at places situated so far apart as St. Just, Camborne, and Mount Hawke, are as much as can be completed within the week, especially as much time is expended in preparing, packing, and removing apparatus. Our lecturer, however, occupies the evenings which are left at his disposal in visiting other districts, and in attending to a class at Truro. This class is not connected with the Miners' Association, but we conceive, however, that there are advantages indirectly obtained by diffusing as much as possible in the county some knowledge of science. The arrangements for the lectures are now carried out by the executive committee, and we hope, by a judicious distribution of the lecturer's time, that he will be enabled, during the year, to visit most parts where classes have existed. Although we consider the prospects of the Miners' Association favourable, we must still urge upon those who are friendly to it the necessity of exerting themselves to improve the financial position of the Society.

ROBERT HUNT, F.R.S., Hon. General Secretary.

GEOLOGICAL SOCIETY OF LONDON.—April 5: Sir R. I. Murchison (Vice-President), in the chair. Messrs. Henry Clark Barlow, M.D., Stoke Newington, N.; Townshend Monckton Hall, Pilton Paragon, near Barnstaple; John Lawson, C.E., Parliament-street, S.W.; William Milnes, Blackheath, Kent, and Yealm Bridge, South Devon; J. Samuel Perkins, C.E., Belvedere House, West Dulwich, S.; and Minors Claborn Vincent, C.E., Frankfurt, Ohio, U.S., were elected Fellows. The following communications were read:—

1.—"On some Tertiary Deposits in the colony of Victoria, Australia," by the Rev. J. E. T. Woods, F.L.S., F.R.S.
2.—"On the Chalk of the Isle of Thanet," by W. Whitaker, B.A., F.G.S., of the Geological Survey of Great Britain.

3.—"On the Chalk of Buckinghamshire, and on the Tottenham Stone," by W. Whitaker, B.A., F.G.S., &c.

The following specimens were exhibited:—*Lepidostrobilus variabilis* and *Cyclopteris orbicularis*, from the coal measures of Dudley; presented by Henry Beckett, F.G.S.
On Wednesday the following papers will be read:—1. "On the Character of the Cephalopodous Fauna of the South Indian Cretaceous Rocks," by R. F. Stollens; communicated by the Assistant-Secretary.—2. "On the Growth of Ficus, or Coccidaria Aragonite," by W. Wallace; communicated by W. W. Smyth, M.A., F.R.S., Sec. G.S.—3. "Notes accompanying some specimens of Clay, in more or less regular rhomboids," by Sir J. F. W. Herschel, Bart., K.C.H., F.R.S., F.G.S.; extracted from letters to Sir C. Lyell, Bart., D.C.L., F.R.S., F.G.S.

SHARES FOR SALE IN THE MINERA DISTRICT, NEAR WREXHAM, NORTH WALES.—30 Miners Union, 50 South Miners, 10 Park, and 20 Central Miners shares. Also, 10 shares in the Bwlch-y-Pwll Mine, Merionethshire, and 50 shares in the Caeon Sion Mine, Merionethshire. For particulars and prices, apply to Mr. ALBERT BURY, sharebroker, Temple-row, Wrexham.

MR. D. STICKLAND, M.E., having had upwards of 40 years' mining experience in Cornwall, several years of which he has had the entire management of mines therein, enables him to GIVE GOOD ADVICE thereon. MINES INSPECTED and faithfully REPORTED ON. DEALER IN MINING, RAILWAY, and OTHER SHARES. His monthly Circular forwarded on receipt of six postage stamps. Criddle Mine, St. Ives, Padstow, Cornwall.

BARRETT AND CO., 9, SPRING GARDENS, CHARING CROSS, STOCK, SHARE, AND FINANCE BROKERS, transact business of every kind in British, Foreign, and Colonial Stock, Shares, Bonds, Debentures, Mines, Miscellaneous Investments, including American Government Securities, Confederate States Securities, Spanish, Mexican, and other stocks, and are in direct communication with the powerful bankers and brokers in all European towns and cities, in the Federal and Confederate States, and in the Canadas. The earliest and most accurate information received on monetary matters. Investment Circular gratis. 9, Spring-gardens, S.W., March 4, 1865.

MANCHESTER, AND WEST END OF LONDON.
MR. W. HANNAM, MINING, SLATE QUARRYING, INSURANCE, AND GENERAL SHAREBROKER. ROYAL INSURANCE BUILDINGS, KING STREET, MANCHESTER; and 31, REGENT STREET, LONDON, S.W.
INSTANTANEOUS COMMUNICATION with the STOCK and MINING EXCHANGES, avoiding the delay and annoyance of visiting the City to ascertain prices. A Monthly Investment Circular on application.

NORTH OF ENGLAND MINING AND ENGINEERING OFFICES, MANCHESTER.

MESSRS. HARVEY AND CO., MINING ENGINEERS, AGENTS, AND SHAREDEALERS, CLARENCE CHAMBERS, MANCHESTER, are at all times in a position to deal in all the market requirements of the mining industry, and are also, by arrangement, being practically acquainted with the business and having a daily communication from the mining districts of Devon and Cornwall.
Messrs. HARVEY and Co. publish a monthly "Mining Circular," containing a valuable summary of mining information. Forwarded gratis on application. The Circular for February will contain special reports on South Wales Basalt, East Wales Basalt, and East Corn Brea.
Bankers: National Provincial, Manchester; and the Alliance, Lothbury, London.

TO CAPITALISTS.—WANTED, a PARTNER in ONE of the MOST PROMISING COLLIERIES in NORTH WALES. The royalty is about 500 acres, and is already proved to contain four valuable seams of coal, adapted both for home and steam purposes, and the returns on the capital invested will be at least 10 per cent. annually. The capital is required for the full development of the concern, and if preferred the incoming partner may have the entire management, financially and otherwise.—Address, "W. 15," Post-office, Liverpool.

PARTNERSHIP.—TO CAPITALISTS AND OTHERS.—WANTED, by an OLD ESTABLISHED FIRM in the IRON TRADE, where a lucrative branch of business is carried on, a gentleman as a PARTNER, with a capital of not less than £10,000 to £15,000.—For further particulars, address "X. Y. Z.," Mining Journal office, 76, Fleet-street, London, E.C.—March 29, 1865.

WANTED, a PERSON THOROUGHLY ACQUAINTED with SPLITTER WORKS and the SMELTING of BLEND ORES, as MANAGER of the new works about to be erected by the GREAT LAXEY MINING COMPANY (LIMITED), and CAPABLE of SUPERINTENDING the ERECTION of the NEW BUILDINGS. Parties applying must state age, and salary expected, and be prepared to give unexceptionable references as to character and ability. A free house and coal are provided by the company.—Applications to be addressed to the GREAT LAXEY MINING COMPANY (LIMITED), Douglas, Isle of Man.

WANTED, a PERSON to SUPERINTEND a CHALK PIT, to be QUALIFIED to DIRECT QUARRYING, LIME BURNING, and to MANAGE GENERALLY the MACHINERY, ENGINES, LOCOMOTIVES, ROADS, &c.—Apply to the Secretary, the Grays Chalk Quarries Company (Limited), 30, Lower Thames-street, E.C.

WANTED, by the advertiser, a SITUATION as ASSAYER of COPPER, TIN, LEAD, or SILVER ORE. Accustomed to practical mining in all its branches, or mining accounts. Would prefer going abroad. Parties would save time and trouble by stating salary given, &c. References on application, as usual.—Address, "J. W.," Mining Journal office, 76, Fleet-street, London, E.C.

WANTED, in a LARGE ENGINEERING CONCERN, a GENTLEMAN of FIRST-CLASS ABILITIES and EXPERIENCE, to TAKE the COMMERCIAL and FINANCIAL MANAGEMENT. Preference will be given to a person possessed of about £10,000 capital, who after the lapse of six or eight months might (on arranging to invest it in the business) be made a partner on mutually suitable terms.—Address by letter, with full particulars and salary required, to "A. M.," 16, Wellington-street, W.C.

WANTED TO PURCHASE, a VALUABLE MECHANICAL PATENT RIGHT for the UNITED STATES. Naval or military inventions not desired.—Address, "C. A.," Mining Journal office, 76, Fleet-street, E.C.

WANTED, a GOOD SECOND HAND 50 or 60 inch PUMPING ENGINE, on the Cornish principle, with BOILERS.—Apply, stating lowest price, to the HOLYWELL LEVEL MINE COMPANY, near Holywell.

WATER WHEEL WANTED, about 30 to 35 feet, by 3 or 4 feet breast.—Address, with full particulars and lowest cash price, Mr. HAMP, Hamplyde Copper Mining Company (Limited), 5, Chapel-street, Liverpool.

FOR SALE, the RIGHT to the PATENT of a VALUABLE IMPROVEMENT in VALVES and BUCKETS for PUMPS, and in VALVES or COCKS for OTHER USES.—For particulars, apply to Mr. W. T. RAWLINS, patent and mining agent, 39, Budge-street, Bristol.

TO INVENTORS AND PATENTEES.—A GENTLEMAN having an extensive connection with manufacturers, merchants, and others, would be GLAD to UNDERTAKE the SALE of INVENTIONS or PATENTED ARTICLES, on commission.—Apply to Mr. RAWLINS, patent office, 14, Clare-street, Bristol. N.B.—Continental and foreign agencies solicited.

TO CONSUMERS OF STEAM POWER.
NATIONAL BOILER INSURANCE COMPANY (LIMITED).
145, CHEAPSIDE, LONDON, and 22, ST. ANN'S SQUARE, MANCHESTER. Inspection and Insurance of Land and Marine Boilers effected.
G. HOWARD FENWICK, Managing Director.
J. H. TILLY, Secretary.

IN THE MATTER of the LAGUNAZO SULPHUR AND COPPER COMPANY (LIMITED), and of the COMPANIES ACT, 1862.—Notice is hereby given that, on an EXTRAORDINARY GENERAL MEETING of the shareholders of this company, held on the 16th day of March, and by adjournment on the 27th day of March, 1865, the following resolutions, passed at an extraordinary general meeting of the shareholders of this company, held on the 28th day of Feb., 1865, were unanimously confirmed, viz:—

1.—That, having regard to the present position of this company, and its inability to pay its debts, it appears to the meeting that it is advisable that this company be dissolved, and that the same stands and is dissolved accordingly, subject, nevertheless, to the provisions contained in the Memorandum and Articles of Association, and of the Companies Act, 1862.
2.—That for the purpose of winding-up the affairs of this company, Charles Graham Carttar, of No. 7, Skinner's-place, Saxe-lane, in the City of London, accountant, be appointed the liquidator hereof, and that such sum as the directors shall think fit shall be paid to him as the remuneration for his services as such liquidator.
3.—That the said liquidator is hereby authorised and empowered to sell, and dispose of the mines and other property of this company, to any person, persons, or company, who will take upon him or themselves the whole of the debts of this company, and also all the obligations of the company undertaken by them in the deeds or contracts for purchase of the mines of this company, or on such other terms as he may obtain.
C. GRAHAM CARTTAR, Liquidator.

IN THE MATTER of the LAGUNAZO SULPHUR AND COPPER COMPANY (LIMITED), and of the COMPANIES ACT, 1862.—The CREDITORS of the ABOVE COMPANY are REQUIRED, on or before Monday, the 8th day of May, 1865, to SEND THEIR NAMES AND ADDRESSES, and the PARTICULARS of THEIR DEBTS or CLAIMS, and the names and addresses of their solicitors (if any), to the undersigned, Charles Graham Carttar, the liquidator of the said company, at the offices of Messrs. Carttar and Harper, accountants, No. 7, Skinner's-place, Saxe-lane, in the City of London; and if so required, by notice in writing from the said liquidator, to come in and prove their debts or claims at the offices aforesaid, at such time as shall be specified in such notice, or in default thereof they will be excluded from the benefit of any distribution made before such debts are proved.
C. GRAHAM CARTTAR, Liquidator.
SHEPPARD AND RILEY, Solicitors to the Liquidator.

Dated this 8th day of April, 1865.

IN THE MATTER of the EAST KONGSBERG NATIVE SILVER MINING COMPANY OF NORWAY (LIMITED), and of the COMPANIES ACT, 1862.—The CREDITORS of the ABOVE COMPANY are REQUIRED, on or before Monday, the 8th day of May, 1865, to SEND THEIR NAMES AND ADDRESSES, and the PARTICULARS of THEIR DEBTS or CLAIMS, and the names and addresses of their solicitors (if any), to the undersigned liquidators of the said company, at the offices of Messrs. Carttar and Harper, accountants, No. 7, Skinner's-place, Saxe-lane, in the City of London; and if so required, by notice in writing from one of us, to come in and prove their said debts or claims at the offices aforesaid at such time as shall be specified in such notice, or in default thereof they will be excluded from the benefit of any distribution made before such debts are proved.
GEO. GRANT, Liquidators.
C. GRAHAM CARTTAR, Liquidators.
SHEPPARD AND RILEY, Solicitors to the Liquidators.

Dated this 8th day of April, 1865.

THE UNITED MEXICAN MINING COMPANY (LIMITED).—Notice is hereby given that the ORDINARY HALF-YEARLY GENERAL MEETING of proprietors will be HELD at the office of this company, on WEDNESDAY, the 3d day of May next, at One o'clock precisely.
At this meeting John Phillips and John Weston, Esqs., will retire from office as directors, and John Hibbert and Charles Biggs, Esqs., as auditors, but being eligible severally offer themselves for re-election.
The transfer books will be closed on the afternoon of the 23d inst., and re-opened on the day succeeding the meeting.
By order of the Board, W. M. BROWNE, Sec.

Office, No. 5, Finsbury-circus, London, E.C., April 7, 1865.

THE STRATHALBYN MINING AND SMELTING COMPANY (LIMITED).—Notice is hereby given that an EXTRAORDINARY GENERAL MEETING of the shareholders of the Strathalbyn Mining and Smelting Company (Limited) will be HELD at the offices of the company, St. Michael's House, St. Michael's-alley, Cornhill, in the City of London, on TUESDAY, the 2d day of May, 1865, at Two o'clock in the afternoon, for the purpose of confirming a special resolution passed at an extraordinary general meeting of the shareholders of the above company, held on Tuesday, the 11th day of April, 1865, whereby it was resolved that the company should be wound-up voluntarily under the provisions of the Companies Act, 1862, and that Mr. Frederick Whinny should be appointed liquidator.
By order of the Board, JERU HITCHINGS, Sec.

WHEAL ELLEN (S.A.) MINING COMPANY (LIMITED).—Notice is hereby given that the FOURTH ANNUAL GENERAL MEETING of the Wheal Ellen (S.A.) Mining Company (Limited) will be HELD at the offices of the company, 61, Threadneedle-street, on TUESDAY, the 25th inst., at One o'clock P.M., for the transaction of the ordinary business of the company.
And notice is hereby further given that the transfer books of the company will be closed from the 11th to the 25th April, both days inclusive.
By order of the Directors, J. BROWN, Sec.

61, Threadneedle-street, London, E.C., April 11, 1865.

CAPT. C. WILLIAMS, TYN-Y-WERN, TALIESIN, via SHREWSBURY, has had upwards of 30 years' practical experience in mining, during which time he had the entire management of several English and Welsh mines. Residing in the centre of the CARDIGANSHIRE MINING DISTRICT, and in close proximity to those of MERIONETHSHIRE and MONTGOMERYSHIRE, he OFFERS HIS SERVICES to SURVEY and REPORT UPON ANY MINE.

CAPT. CHARLES WILLIAMS begs to inform all parties connected with mining that he is now in a position to UNDERTAKE CONTRACTS for the ERECTION of ALL KINDS of MACHINERY, LEVELLING or MAKING WATER COURSES and RESERVOIRS. Also, for TUNNELLING and SINKING ANY QUANTITY of GROUND, having always ready a sufficient number of machinists and miners to complete any work he may undertake, with punctuality and dispatch. References given if required.
Tyn-y-Wern, Taliesin, via Shrewsbury, January 16, 1865.

THE INVESTMENT AND FINANCE AGENCY.

Established for the purpose of effecting Purchases and Sales on Commission in every description of Public Securities, and for affording the necessary precautionary information for the safe investment of capital, &c.

A record is kept of the status and prospects of the various public companies and foreign stocks; and as this agency scrupulously discharges its duties upon transactions upon its own account, the public have, first, the security of being protected by unbiased information, based upon 27 years' experience in the stock and share markets; and, secondly, the guarantee that any business which this agency undertakes will be completed with the strictest fidelity.

During the past year, 1864, no less than ten new foreign loans, constituting an aggregate capital of £29,271,000, and 292 new joint-stock companies, with an authorised capital of £155,887,500, were introduced upon the London market.

Never were there times which incited more forcibly than the present the necessity of experience and caution prior to the investment of capital, or when reliable services, such as this agency specially renders, were more requisite.

The FINANCE DEPARTMENT includes the agency of public companies, loans, deposits, &c., and advances are negotiated on public securities having a market value.

An important feature of this agency is, that the same uniform system of strict attention is paid to transactions of small as well as large amounts, the object being to increase its facilities for carrying out its operations to the greatest possible advantage, by embracing the business of every description of investors.

Cheques to be drawn to the order of Mr. CHARLES PETERA, secretary, and crossed "The Agency and Masterman's Bank."

Office, No. 12, Clement's-lane, Lombard-street, London, E.C.

SOUTH WALES CONSOLIDATED LEAD MINING COMPANY (LIMITED).

Capital £30,000, in 3000 shares of £10 each.

Amount to be called up, £2 10s. per share; £1 on application, and £1 10s. on allotment.

Directors: Mr. WILLIAM SMITH, Bart., Grenville-place, St. John's-word, London.

G. W. CHARLWOOD, Esq., Fetham, Hounslow.

JOHN SALVAGE, Esq., Greenfield House, Newbridge, Newport.

JOHN ROWLANDS, Esq., 2, Cophall-buildings, London, E.C.

(With power to add to their number.)

BANKERS—Imperial Bank (Limited), Lombury.

Solicitors—Messrs. Hancock, Sharpe, and Halse, Birch-lane, London, E.C.

SECRETARY—Mr. Charles Thomas.

OFFICES—3, GREAT ST. HELEN'S, LONDON, E.C.

PROSPECTUS.

This company has been formed for the purchase and working of the Cwmbrane, Casars, Pentwyn, and Lady Eliza Mines, situated in the parish of Llangadock and Mowhe, in the county of Carmarthen, within four miles of the Llangadock railway-station, and eight hours' journey of London by railway.

The present company's grant is very extensive, and is traversed by three large metalliferous veins or lodes, embedded in a clay-slate or killas stratification, all of which have been found productive of lead ore, so far as explored. Reports of competent miners contain a full description of these lodes, and the extent to which they have already been worked, and all tend to show that the mine has as yet had but little trial, and is now only approaching that depth where, on the average, in the lead mines of the principality, the greatest wealth is obtained.

The ore raised is of the best quality, containing 78 to 80 per cent. of fine Potter's lead and 8 oz. of silver per ton, samples of which can be seen at the company's offices.

The natural advantages are such that in the course of a short time the company expect to be able to work the mines without the employment of any steam machinery for the purpose of drainage. An unlimited supply of water flows through the soil all the year round, and the work now contemplated when finished will result in the employment of this stream, to the permanent benefit of the company.

An important part of this property has been lately carried on by the Cwmbrane Mining Company (Limited). This company commenced operations with a working capital of £3000—£2000 of which was expended upon the mine, but chiefly in renovating the dressing-floors, providing new pumps, sinking new shafts, &c., all necessary for the proper development of the mine, and of which the present company will have the advantage.

The Cwmbrane Company, during the two years they worked their mine, with all hindrances caused in making alterations and putting in new pumps, raised and sold £4187 worth of lead ore; and in the last three months, ending April, 1864, sold £292 worth of ore, at a cost of £259, showing that at the time of winding-up the mine was yielding a small profit.

The present company, by working on a limited scale, could make the mine at least self-supporting; but the object is to thoroughly develop the property, and with reference to that part described as Cwmbrane to extend levels into the northern part, and eventually to do without the aid of steam-power, as suggested by the reports.

Upwards of £30,000 have been from time to time expended upon this property in machinery and bringing it to its present state, so that all the preliminary expenses attendant upon the commencement of a new mine have been already met, and the works put in such a position that immediate returns of lead can and are now being made.

The plant consists of a new 36-in. cylinder Cornish condensing-engine, with large tubular boiler; about 90 fms. of 7, 8, and 9 in. pumps, with 8-in. plunger and drawing lifts, with rods, complete; with and drawing-ear; skip-rod and skips; 100 fathoms tramroad and trams; large water-wheel and crusher; dressing-floors and apparatus; jigg-machines; flat and round buddies, worked by water-wheels; shears and capstan; ropes, chains, and pulleys; tools and utensils of every kind requisite for the efficient working of a mine of this magnitude. There are also reservoirs for supplying the engine and dressing-floors in dry weather, all in good working order and condition. Erected on the mine are two substantially-built houses, suitable for a resident agent or agents.

That portion of the property known as Cwmbrane now produces from 10 to 15 tons of lead per month, which about meets the monthly cost; in addition to which there are reserves of ore, lately discovered by long drifts in the north part of the mine, sufficient to enable the company, upon completion of the ventilation and communication with surface, to increase the returns to 30 tons per month. This return, it is calculated, would leave a profit of at least £30 per cent. upon the capital employed; and, with the steady development of the property, and with a continuation in depth of the present productiveness of the lode, there is no doubt that a lasting, rich, and profitable mining property will be found, and fully equal to other successful companies in the South of Wales. No prompt money will be paid, and the preliminary expenses will be strictly confined to such as are indispensable.

The consideration agreed to be paid for the purchase of all the existing rights in the mines and properties, including all machinery, buildings, and the whole of the plant, is £2000—£2000 of which to be paid in cash, and the remaining £2000 in shares paid up to £5.

No call of more than 10s. per share will be made at any one time, nor will any call be made at a less interval than three months.

The company being "Limited," no shareholder, under any circumstances, can be liable for more than the amount of the shares for which he may subscribe.

Application for shares may be made to the directors, at the offices of the company accompanied by the banker's receipt. Prospectuses, together with reports and forms of application for shares, may be had at the offices of the company.

NATIONAL PROVIDENT INSTITUTION

GRACECHURCH STREET, LONDON.

Established December, 1835.

MUTUAL ASSURANCE WITHOUT INDIVIDUAL LIABILITY.

DIRECTORS: CHAIRMAN—SAMUEL HATHURST LUCAS, Esq.

DEPUTY-CHAIRMAN—ROBERT DIGHAM, Esq., M.P.

JOHN BRADBURY, Esq., M.P.

HENRY WHITE CASTLE, Esq., M.P.

THOMAS CHAMBERS, Esq., Q.C.

JOSEPH FELL CHRISTY, Esq.

HENRY CHORISTABLE, Esq.

JOHN FELTHAM, Esq.

MEDICAL OFFICERS—Thomas Hodgkin, Esq., M.D., and John Gay, Esq., F.R.C.S.

CONSULTING ACTUARY—Charles Ansell, Esq., F.R.S.

Amount of profit of the five years ending 30th November, 1862 was ..£591,965 5 4

Making the total profit divided ..£1,227,358 5 3

INSTANCES OF REDUCTIONS IN PREMIUMS.

Date of policy. Age. Sum assured. Original premium. Prem. now payable. per cent. Reduction.

October, 1836.. 49 ..£1000 ..£ 43 11 8 ..£ 0 7 10 .. 99

March, 1840.. 48 .. 200 .. 8 10 4 .. 1 19 4 .. 77

January, 1839.. 36 .. 1000 .. 29 10 0 .. 10 12 8 .. 64

December, 1840.. 38 .. 2000 .. 126 0 0 .. 64 8 8 .. 49

January, 1852.. 35 .. 500 .. 14 11 8 .. 2 8 8 .. 37 1/2

January, 1859.. 49 .. 3000 .. 132 0 0 .. 98 7 10 .. 25 1/2

The following are a few instances wherein the premiums have become extinct, and annuities for the next five years granted in addition:

Date of policy. Age. Sum assured. Original premium. Prem. now extinct. payable.

April, 1836 .. 54 ..£1000 ..£ 52 0 0 ..£ 8 3 8

August, 1838 .. 56 .. 500 .. 25 3 4 .. 9 1 3

August, 1837 .. 60 .. 2000 .. 125 3 4 .. 75 6 8

March, 1842 .. 61 .. 800 .. 32 19 2 .. 1 17 4

Amount of claims paid ..£1,811,165 5 3

Gross annual income .. 2,480,953 14 0

Members whose premiums fall due on the 1st April are reminded that the same must be paid within thirty days from that date.

The prospectus and every information may be had on application.

March 26, 1865. GEORGE MORRIS, Secretary.

LONDON AND LANCASHIRE FIRE AND LIFE INSURANCE COMPANIES.

Fire capital, £1,000,000. Life capital, £100,000.

LONDON .. 73 and 74, KING WILLIAM STREET, E.C.

LIVERPOOL .. BROWN'S BUILDINGS, EXCHANGE.

With Home and Foreign Branches and Agencies.

CHAIRMAN—F. W. RUSSELL, Esq., M.P. (Chairman of the National Discount Company).

At the ANNUAL MEETINGS, held on the 8th of April, at Liverpool, it was stated, as the result of operations for the year 1864, that the—

Fire premiums amounted to ..£108,897

Being an increase over previous year of .. 45,547

The losses paid and provided for amounted to .. 67,063

Life assurances, under 502 policies, were effected for .. 340,629

Producing in new premiums .. 9,637

W. P. CLIFTHUGH, General Manager.

ACCIDENTS TO LIFE OR LIMB, in the FIELD, the STREETS, or at HOME, provided for by a Policy of the RAILWAY PASSENGERS' ASSURANCE COMPANY, 64, CORNHILL, LONDON, E.C.

Compensation has been paid for 10,000 claims.

£1000 in case of Death, or £5 per week while laid up by Injury, secured by An Annual Payment of from £3 to £25.

For particulars apply to the Clerks at the Railway Stations, to the Local Agents, or at the Offices.

64, CORNHILL, and 10, REGENT STREET.

W. J. VIAN, Sec.

IN the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WHEAL PRUDENCE MINING COMPANY (LIMITED).—TO BE SOLD, BY PUBLIC AUCTION, at and upon the WHEAL PRUDENCE MINE, situate in the parish of ST. AGNES, in the county of CORNWALL, under the direction of the Registrar of the said Court, on Monday, the 1st day of May next, at Eleven of the clock in the forenoon, subject to such conditions as shall be then and there produced, and either together or in such lots as shall then be determined on, all the INTEREST of the said company and in the LEASES by virtue of which the mining operations of the said company have for some time been carried on, and the undermentioned MINING MACHINERY and MATERIALS, viz.:

ONE 70 in. cylinder PUMPING ENGINE, with TWO BOILERS 25 tons.

ONE 24 in. cylinder PUMPING ENGINE, with ONE BOILER and capstan.

2 9 ft. 16 in. windroves.

2 do. do. do.

1 11 ft. 16 in. working barrel.

24 18 in. pumps.

60 fms. of 1 1/2 bucket rods.

1 16 in. H. piece.

2 pole cases, stuffing boxes, and glands.

1 plunger pole.

1 9 ft. 10 in. windrove.

1 10 in. H. piece.

1 10 in. top do. do. do.

30 10 in. pumps.

1 9 in. pole.

600 ft. of main rods, main shears, with cap, pulleys, and brasses.

2 poppet heads, balance bob, and connecting rod; which, tram wagons, tram rails, cat head rope, bar steel, pulley blocks, a brass bell, nails, new and old rope, new and old timber, 3 smiths' bellows, 1 pair of drop screws, connection in engine-shaft, brass and iron weights, 100 fms. of ladders, saw-house tools and materials, whelm kibbles, 200 fms. of iron stave ladders, 3 cisterns, dressing tables and materials, scales and beams, scrap iron, a quantity of smiths' and miners' tools, strapping plates and bolts, buckets, horse whelm pulleys, clacks and valves, mathematical instruments, superior account-house furniture, and other miscellaneous effects in general use in mines.

The mine and materials may be inspected at any time prior to the sale, on application to Mr. BELLINGHAM, the officer in charge thereof, and further particulars, with conditions of the sale, may be had on application to

Messrs. BLACKBURN AND SON, (Solicitors for the Petitioner); or to Mr. JOSEPH ROBERTS, Solicitor, Truro.

Dated Registrar's Office, Truro, April 5, 1865.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the GREAT NORTH TOLUEN MINING COMPANY (LIMITED).—TENDERS will be received at the Registrar's Office, Truro, on or before the 26th day of April inst., stating the highest price which will be given for the INTEREST of the ABOVE-NAMED COMPANY and of an INDENTURE of GRANT or MINING SETT, dated the 6th day of January, 1860, for the term of 21 years, and also for a plan of the said sett, 6 ft. 6 in. by 9 ft. 6 in., mounted on cloth, with spring rollers, mahogany back, brass fitting, &c., which may be inspected at the said office, where further particulars respecting the said sett may be obtained, or of

HODGE, HOCKIN, AND MARRACK, Truro (Solicitors for the Petitioner).

Dated Registrar's Office, Truro, April 12, 1865.

In Chancery.

IN Re the COMPANIES ACT, 1862, and Re the BRITISH COPPER COMPANY (LIMITED).—TO BE SOLD, BY PUBLIC TENDER, at all VALUABLE MINERAL PROPERTY, called the REDNAL COPPER MINE, situate at Eardiston, Salop, within two miles of the Rednal Station on the Shrewsbury and Chester Railway, together with the EXTENSIVE BUILDINGS, PLANT, STORES, and MATERIALS, by Mr. H. THURLEIGH EDWARDS (the Liquidator of the British Copper Company, Limited), at his office, No. 9, King's Arms-yard, Moorgate-street, London, on Monday, the 24th day of April, 1865, at One o'clock precisely.

The sett extends over about 115 acres, and about half a mile on the run of the lode. It is granted for the term of 21 years, from the 25th December, 1864, at a royalty of 1-15th, and a yearly rent of £100, to merge into royalty, and is determinable at twelve months' notice.

An engine-shaft has been sunk to the depth of 30 fms. There are also two other shafts, and levels are driven opening up a considerable extent of ground. There are upon the mine 100 tons (computed) of rich quality copper ore, ranging from 8 to 15 per cent. produce.

Convenient and substantial STONE-BUILT BUILDINGS have been erected in immediate contiguity to the turnpike road, comprising engine-house, fitted up with 12-horse ENGINE (complete), material house, blacksmith's shop, carpenter's shop, changing house, account house, and engine house for 60-horse power engine (unfinished).

The mine is situated in the sandstone formation; the lode is well defined, and about 4 ft. wide, with a leader, about 18 in. in width, of rich copper ore.

Being a pure carbonate of copper, similar to the ore of the Alderley Edge Mines, the copper is extracted from the ore, on the mine itself, by precipitation, at a moderate cost that the before-named mine is paying 100 per cent. dividends, although their ore only averages produce of 1 1/4 per cent.

The mine has been favourably reported on by Capt. Charles Thomas, of Dolcoath; Capt. Francis Phillips, late of Alderley Edge; and Capt. Pascoe, of the Mottram Mines, near Alderley. Copies of such reports can be obtained on application.

Upwards of £2500 have been laid out on the mine within the last two years, and it is believed that if £1000 is expended in building tanks for precipitating the copper, and extending the levels, large returns will be made by the proprietors.

Orders to inspect the above property can be obtained on application to the liquidator, at his office, where particulars and conditions of sale can be had; as also of A. PULFORD, Esq., Solicitor, 31, Threadneedle-street, London; at the Raven Hotel, Shrewsbury; the Railway Hotel, Rednal; and of Mr. CHARLES FAIR, at the mine.

MACHINERY, &c.

MR. THOS. H. OWEN is commissioned to SELL, BY AUCTION, on the 18th April, without reserve, at One o'clock P.M., at Maltraveth Yard, a mile from Bodorgan station, Anglesea, the following:

ONE HORIZONTAL HIGH PRESSURE STEAM ENGINE, 17 in. cylinder, 3 ft. stroke, with winding and pumping gearing complete. Has been in use about three months, and is equal to new.

ONE STEAM BOILER of the best construction, and no worse for wear, 17 ft. long and 6 ft. diameter, with two flues through, and fitted with mountings complete; 1 lift of pumps, 8 in. bore, about 30 yards long, chains, crane, chimney funnel, &c.; and a large quantity of bricks, and about 1000 good building stones.

CALVADNACK MINE, IN WENDRON.

ALL THE PUMPING, WINDING, AND STAMPING ENGINES, AND OTHER MACHINERY, PITWORK, TOOLS, TACKLE, MATERIALS, AND OTHER EFFECTS, FOR SALE, BY AUCTION.

MR. EDWARDS WILL SUBMIT FOR SALE, BY AUCTION, on Wednesday, the 19th day of April inst., and following day, at CALVADNACK MINE, near FOKKELLIS, in the parish of WENDRON, all the ENGINES, MACHINERY, MATERIALS, and Effects, comprising—

A very good 40-hp. PUMPING ENGINE, stroke 9 ft. within and 7 ft. without, with TWO BOILERS, 10 tons each.

A very excellent 22-hp. DOUBLE WHIM ENGINE, with fly-wheel and iron cage and boiler, 8 tons.

A new and superior 20-hp. STAMPING ENGINE, with boiler of 10 tons, fly-wheel and three iron axles, with 40 heads attached. (Heads attached.)

A very complete WATER STAMPS, wheel 26 ft., 3 1/4 ft. breast, with iron axle and 12 2 1/2-hp. WHEELS, 20 in. breast, with axles and 4 stamp-heads attached to each.

A very excellent 8-arm CAPSTAN, with oak axle; two very good SHEARS, with every requisite complete.

30 12 in. pumps, with H and top door-pieces to match.

A 5 ft. 18 in. flat-bottom windrove

A 15 in. pole, with stuffing-box and gland, complete

A 15 in. pole case for same, 9 ft. long

21 9 in. pumps, with H and top doorpieces to match

A 6 ft. 9 in. flat-bottom windrove

A 15 in. pole, with stuffing-box and gland, complete

A 10 in. pole case for same, 9 ft. long

13 8 in. pumps, with 7 in. H and top doorpieces to match

A 7 in. pole, with stuffing-box and gland, complete

2 smiths' bellows, crane, anvils and vice, and a large and general assortment of smiths' and miners' tools; screwing stocks, and a variety of plates and taps, with wrenches to fit; punching machine, complete; kibbles and 4 socket pieces for angle-bob; whelm and whelm kibbles; pulley stands; a quantity of iron flat-rods; 16 machine buddies; 60 machine frames; 22 band frames; 44 flat frames; round baddies; with 6-1/2 wheel for driving same; 18 stamp strips; 22 tin knives; dressing tools; burning oven; tin house; carpenter's benches, and a variety of carpenter's tools; grinding stones; a variety of new chain; sundry cordage; a large and good assortment of glands, bolts, and nuts; new and old iron and steel; several wood houses and roofs; numerous lots of timber; the account-house furniture and utensils; and numerous other articles.

Also all the TIN SLIMES, HALVANS, and LEAVINGS.

The machinery and materials at Calvadnack are mostly new, exceedingly good, and in excellent condition, and the boilers and other parts of the machinery usually covered will be laid open for inspection before the sale, to which merchants, mine agents, and others, are particularly invited.

The sale will commence on the 19th at eleven in the forenoon precisely, and not before 10th, as stated in a former preliminary notice.

Dated April 1, 1865. Refreshments will be provided.

NORTH GREAT WORK TIN MINE, IN THE PARISHES OF BREAGE AND GERMONE, IN THE COUNTY OF CORNWALL.

MR. V. BUCKLAND is instructed by the Official Liquidator to SELL, BY AUCTION, at the Guildhall Coffee-house, London, on Wednesday, the 19th day of April, the GOODWILL of the LEASE, PLANT, and MATERIALS of the NORTH GREAT WORK TIN MINE, from which a large quantity of ore has been recently raised. The mine is traversed by several important and paying lodes, and with a moderate outlay may be made a valuable property.

Particulars and conditions of sale may be had in a few days of H. W. EDWARDS, Esq., official liquidator, 22, Lord-street, Liverpool; of Capt. PORS, at the mine; of J. VIVIAN, Esq., Reskeldunick, near Camborne; and of the Auctioneer, 88 and 89, Cannon-street West, City.

PRELIMINARY NOTICE.

IMPORTANT SALE OF VALUABLE LEAD MINE AND MINING MATERIALS.

MR. DAVID JONES has received instructions to SELL, BY AUCTION, on the 19th of April, 1865, at Three o'clock in the afternoon, subject to conditions to be then and there produced, the SWAN AND PARK COLLIERIES, and the MINERALS UNDER upwards of FOUR HUNDRED ACRES of LAND, situate in the parish of Baglan, near Brittonferry, held for terms of years (determinable by leases) of which 33 years and 55 years respectively are unexpired, at moderate sleeping rents and royalties, together with the PLANT and MACHINERY to the said collieries respectively belonging.

The collieries are close to the harbour and docks of Brittonferry, where the coal is now shipped, and the South Wales Railway runs within a few yards of the pits.

Further particulars may be obtained of Mr. THOS. JENKINS, iron merchant, Brittonferry; and at the offices of Mr. RANDALL, solicitor, Neath, where the leases may be inspected.

GLAMORGANSHIRE.

WORKING BITUMINOUS COLLIERIES, NEAR BRITTONFERRY, FOR SALE.

TO BE SOLD, BY AUCTION, at the Castle Hotel, Neath, on Wednesday, the 19th of April, 1865, at Three o'clock in the afternoon, subject to conditions to be then and there produced, the SWAN AND PARK COLLIERIES, and the MINERALS UNDER upwards of FOUR HUNDRED ACRES of LAND, situate in the parish of Baglan, near Brittonferry, held for terms of years (determinable by leases) of which 33 years and 55 years respectively are unexpired, at moderate sleeping rents and royalties, together with the PLANT and MACHINERY to the said collieries respectively belonging.

The collieries are close to the harbour and docks of Brittonferry, where the coal is now shipped, and the South Wales Railway runs within a few yards of the pits.

NICHOLLS, WILLIAMS, AND CO., ENGINEERS,
BEDFORD WORKS, TAVISTOCK.
MANUFACTURERS OF STEAM ENGINES OF EVERY DESCRIPTION, made on the BEST AND NEWEST PRINCIPLES. We beg more especially to call the attention of the public to the manufacture of our BOILERS, which have been tested by most of our leading engineers. PUMP WORK CASTINGS OF EVERY DESCRIPTION, both of brass and iron. HAMMERED IRON AND HEAVY SHAFTS OF ANY SIZE. CHAINS made of the best iron, and warranted. RAILWAY WORK OF EVERY DESCRIPTION.
ALL ORDERS FOR ABROAD RECEIVE THEIR BEST ATTENTION. Nicholls, Williams, and Co. have had 20 years' experience in supplying machinery to foreign mines, and selecting experienced workmen to erect the same, where required.
Messrs. Nicholls, Williams, and Co. have always a LARGE STOCK OF SECOND-HAND MINE MATERIALS in stock, and at moderate prices.

PATENT FLEXIBLE TUBING,
AND BRATTICE CLOTH FOR MINES,
MANUFACTURED BY
ELLIS LEVER,
PATENTEE,
WEST GORTON WORKS, MANCHESTER.

TAVISTOCK IRONWORKS AND STEEL ORDNANCE COMPANY (LIMITED).
(LATE GILL AND CO.)
ENGINEERS, IRON AND BRASS FOUNDERS,
MANUFACTURERS OF
STEAM ENGINES, BOILERS, AND MACHINERY OF ALL KINDS.
CHAINS, SHOVELS, EDGE TOOLS, AND EVERY DESCRIPTION OF CAST AND HAMMERED IRON FOR MINING, MANUFACTURING, RAILWAY, OR AGRICULTURAL PURPOSES.
Machinery sent to all parts of the world.
Foreign mining companies supplied on liberal terms.

RAILWAY CARRIAGE COMPANY (LIMITED),
ESTABLISHED 1847.
OLDBURY WORKS, NEAR BIRMINGHAM.
MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, AND EVERY DESCRIPTION OF IRONWORK.
Passenger carriages and wagons built, either for cash or for payment over a period of years.
RAILWAY WAGONS FOR HIRE.
CHIEF OFFICES.—OLDBURY WORKS, NEAR BIRMINGHAM.
LONDON OFFICES.—6, STOREY'S GATE, GREAT GEORGE STREET, WESTMINSTER.

THE BEVERLEY IRON AND WAGON COMPANY (LIMITED).
MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, WROUGHT AND CAST IRON CARRIAGE WORK FOR ENGINEERS, &c. BRASS AND IRON FOUNDRY, MAKERS OF PORTABLE FARM RAILWAYS, TURNABLES, CROSSINGS, SWITCHES, &c. AGRICULTURAL MACHINISTS. MANUFACTURERS OF FIELD, ROAD, AND BARN IMPLEMENTS, PATENT LORRY, CART, AND CARRIAGE WHEELS, WITH WOOD OR IRON NAVES. REAPING MACHINES, CLOD CRUSHERS, CORN MILLS, &c. SAW MILL PROPRIETORS. GENERAL TIMBER CONVEYERS FOR HOME AND FOREIGN RAILWAYS, STATIONS, BARRACKS, &c. BUILDING CONTRACTORS, &c.
IRONWORKS, BEVERLEY, YORKSHIRE.
JAMES DEWHIRST, Sec.

THE BIRMINGHAM WAGON COMPANY (LIMITED)
MANUFACTURE RAILWAY WAGONS OF EVERY DESCRIPTION, for HIRE AND SALE, by immediate or deferred payments. They have also wagons for hire capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes. Wagons in working order maintained by contract.
EDMUND FOWLER, Sec.
OFFICES.—3, NEWHALL STREET, BIRMINGHAM.

THE MIDLAND WAGON COMPANY.
ESTABLISHED 1853.
RAILWAY WAGONS.—This company having from SIX to SEVEN THOUSAND COAL COKE, IRONSTONE, and BALLAST WAGONS, have generally a number to let for one or more years, including repairs, at Rugby, Peterboro', Shrewsbury, Chester, Carnforth, Stoke-on-Trent, Staveley, Droitwich, Worcester, Gloucester, Reading, Hereford, Newport (Mon.), Cardiff, and Birmingham.
They also contract for wagon repairs at any of the above stations.
The company build every description of railway wagons and carriages for cash, or by deferred payments extending over three, five, seven, or ten years.
Midland Works, Birmingham. HENRY BRIDGES, Sec.

LOCOMOTIVE, PORTABLE, AND FIXED HORIZONTAL
STEAM ENGINES, all sizes up to 24 in. cylinder, PUMPING AND WINDING GEAR, MORTAR MILLS, SAW BENCHES, PORTABLE CRANES, &c. FOR SALE OR HIRE.
ISAAC W. BOULTON, ASHTON-UNDER-LYNE.

A GREAT DEAL OF INFERIOR SPIEGELEISEN having been SOLD IN ENGLAND, TO THE PREJUDICE OF THE GENUINE ARTICLE. I beg to OFFER BEST QUALITY OF SPIEGELEISEN, as steamer in Hull, at £2 10s. per ton. SECOND QUALITY, £2 5s. Also, FUELLED STEEL IN BARS, ordinary size, £3 per ton. Apply to
JULIUS GOLDSTEIN, HAMBURG.
Engineers, also merchants and manufacturers in the metal trade, wishing to be represented in Hamburg, will please communicate.
AGENTS.—Messrs. CUTHBERTSON AND CO., 80, CORNHILL, LONDON.

ASSAYS AND ANALYSES.—MR. JOSEPH GREEN,
for the past 14 years professional assayer to the Chester Goldsmiths' Company, UNDERTAKES THE ASSAYING AND ANALYSIS OF EVERY DESCRIPTION OF MINERAL.—Assay Office, Chester.

BLASTING.
AS NOW ADAPTED BY LENK'S PROCESS
GUN COTT ON
IS THE CHEAPEST AND SAFEST EXPLOSIVE,
AND FREE FROM SMOKE.
Prices and directions for use on application to the Manufacturers,
THOMAS PRENTICE AND CO.,
STOWMARKET, SUFFOLK.

THE CLUTCH SAFETY CAGE, IMPROVED.
The improvement consists in its having only a single spring, which is strong enough to take the lift of the loaded cage; to overhaul the broken rope, however distant the fracture may be; and yet so conditioned that it cannot bring the clutches into play till the rope is broken. It is an ordinary carriage spring, and can be replaced, when needed, at any coach-work. Makers of cages, or inventors, who may wish to combine the safety clutch with their own improvements are respectfully informed that liberty to do so will be granted to them on easy terms.—Apply to the patentee, ROBERT ARTHUR, 3, Pettie-row, Edinburgh.

Swan Rope Works.
GARNOCK, BIBBY, AND CO.,
CHAPEL STREET, LIVERPOOL.
MANUFACTURERS OF FLAT AND ROUND HEMP AND IRON AND STEEL WIRE ROPE FOR MINING, RAILWAY, AND SHIPPING PURPOSES.
MANILLA ROPE OF SUPERIOR QUALITY, FIFTY PER CENT. STRONGER, AND THIRTY PER CENT. CHEAPER THAN RUSSIAN HEMP ROPE.
WIRE ROPE OF FIRST QUALITY WIRE, AND THE HIGHEST STANDARD OF STRENGTH.

MR. HOPTON'S NEW WORK, entitled
CONVERSATIONS ON MINES, &c., BETWEEN "A FATHER AND SON."
Thirteen plans on ventilation and working out coal, dialling, planning, and taking the dip and rise of the mine illustrated.
Near 900 copies are ordered in Wigan alone.
Address Mr. J. J. CAMPBELL, Cropper's-hill, St. Helen's; or the author, 73, Peter-street, St. Helen's.

THE HARDWARE WEEKLY MESSENGER.
CHARLES RYLAND AND SONS' IRON TRADE CIRCULAR
AND HARDWARE WEEKLY MESSENGER.
The "Iron Trade Circular" is eminently the business journal of the mining districts and the manufacturers and wholesale dealers in iron. Its information is authentic, unbiased, and complete, comprising not only the business news of the South and North Staffordshire districts, but generally of the entire mining and manufacturing districts of the United Kingdom. It is now proposed to add a collection of special and general information in the interests of the Hardware Trade of Birmingham, Sheffield, and London, to be comprised in a department of the "Iron Trade Circular," under the head of "The Hardware Weekly Messenger." Subscription:—
One year (post free) £2 2 0
Half-year (post free) 1 1 0
Quarter of a year (post free) 0 10 0
Payable in advance.
Advertisements and orders to be addressed Union-passage, Birmingham.
CHARLES RYLAND AND SONS, Iron and Metal Brokers.

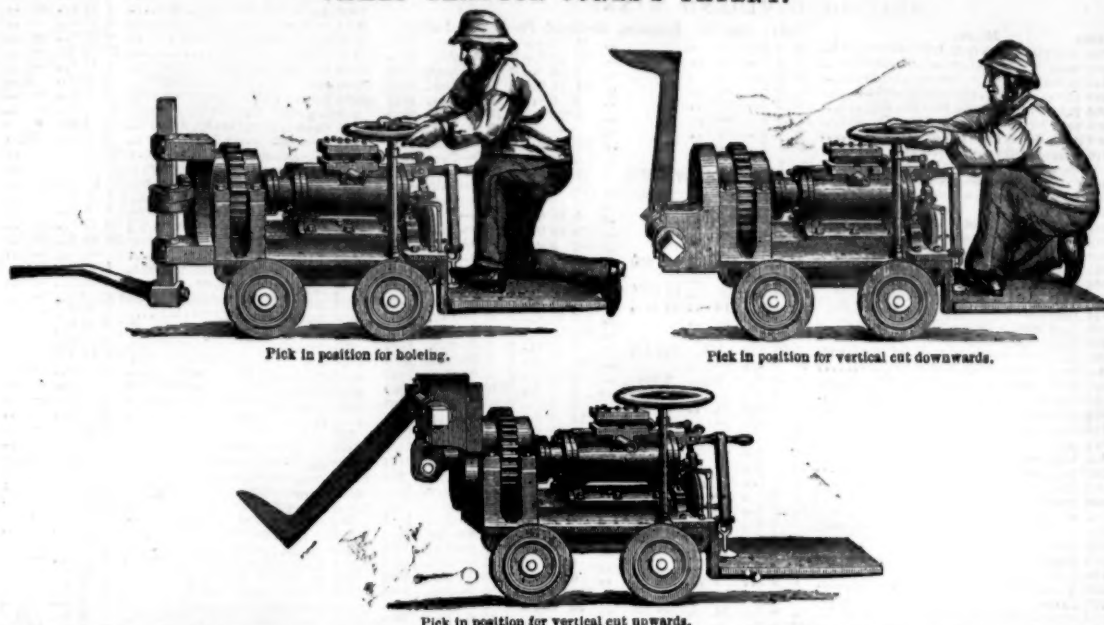
THE NEWCASTLE CHRONICLE AND NORTHERN
COUNTIES ADVERTISER. (ESTABLISHED 1764).
Published every Saturday, price 2d., or quarterly 2s. 3d.
THE DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTISER:
Published every morning, price 1d.
Office, 42, Grey-street, Newcastle-upon-Tyne; 50, Howard-street, North Shields; 195, High-street, Sunderland.

THE STOCKTON AND HARTLEPOOL MERCURY AND
MIDDLEBOROUGH NEWS (published at Hartlepool) is eminently the organ of the Coal, Iron, and Iron Ship-building Trades in the extensive Mining and Maritime District of South Durham and Cleveland, with which it has been closely identified since its origin. The "Mercury" was for years the only newspaper published in South Durham and Cleveland, and is yet the only one published more than once a week. Applications to be forwarded to the publisher, Mr. JOHN H. BELL, Southgate, Hartlepool.

NEW MEDICAL GUIDE.
DR. SMITH, who has had twenty years' practical experience in the treatment of Debility, Syphilis, Disorders of the Nervous System, &c., has published **A GUIDE (128 pages) for Self-Cure.** Sent to any address on receipt of two stamps. Dr. SMITH may be consulted personally (or by letter) in all private and confidential cases.—Address, SMITH AND CO., 8, Burton-crescent, Euston-road, London W.C. Consultations daily from Eleven to Five.

COAL CUTTING MACHINERY.

JAMES GRAFTON JONES'S PATENT.

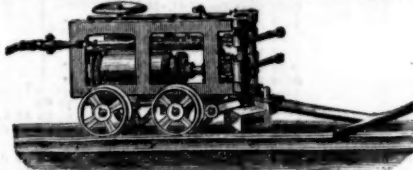


Messrs. JONES and LEVICK, proprietors of this patent, are prepared to supply these Machines, which are on an improved principle, and are constructed to work the coal at any angle from the horizontal to the vertical, thus rendering them capable of "hoeing" at any angle, and of driving "headings." They are simple and substantial in construction, and are not likely to get out of order. They are already successfully employed in the Barnsley coal district, and are being introduced into the South Wales and other coal mining districts. They are also suitable for mining the argillaceous ironstones of the coal measures, as well as working other mines and quarries.

N.B.—Air Compressing Machinery will be supplied, or plans and specifications furnished.

Applications to be made to Messrs. FREDERICK LEVICK and Co., 4, Charlotte-row, Mansion House, London; or Messrs. LEVICK and SIMPSON, Blairston Ironworks, near Newport, Monmouthshire.

COAL CUTTING MACHINERY.

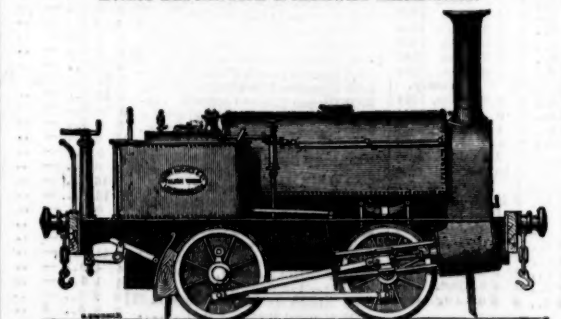


MESSRS. RIDLEY AND CO. have, by recently PATENTED IMPROVEMENTS, COMPLETED THEIR TRUNK COAL CUTTING MACHINE, WORKED BY COMPRESSED AIR, and are NOW PREPARED TO NEGOCIATE FOR THE USE, and TO SUPPLY MACHINES, which will be found to COMBINE SIMPLICITY OF CONSTRUCTION WITH PORTABILITY AND ECONOMY IN WORKING. By the use of these machines a CONSIDERABLE SAVING OF COAL IS EFFECTED, and the COST OF LABOUR MUCH REDUCED. Each machine will be guaranteed as to its capabilities, &c.
All applications to be made to Messrs. RIDLEY and Co., No. 11, South-street, Finsbury London, E.C.; or Mr. PERCY BANKART, agent, 9, Clement's-lane, E.C.
* * COLLIERY PROPRIETORS are CAUTIONED AGAINST PURCHASING OR USING MACHINES, the construction of which will constitute an INFRINGEMENT OF THE ABOVE PATENT.

COAL CUTTING MACHINERY.
The WEST ARDSLEY COMPANY having, by recently patented improvements, perfected their coal cutting machinery, worked by compressed air, are NOW READY TO MAKE CONTRACTS FOR THE CONSTRUCTION AND USE OF THEIR MACHINES. The results of twelve months' experience in the working of these machines, by the West Ardsley Company, have proved most satisfactory, their use being found to CHEAPEN THE COST AND IMPROVE THE AVERAGE SIZE OF THE COAL, TO LIGHTEN THE LABOUR, and also TO MODIFY THE SANITARY CONDITION OF THE MINE. All communications to be made to Messrs. FIRTH, DORMISTON, and BOWEN, No. 8, Britannia-street, Leeds.

NOTICE.—The WEST ARDSLEY COMPANY, having reason to believe that their patents are being infringed upon, hereby give notice that they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may MAKE FOR SALE, or USE ANY MACHINERY in the construction of which any such INFRINGEMENT is MADE.

HENRY HUGHES AND CO.,
FALCON RAILWAY PLANT WORKS,
LOUGHBOROUGH,
ENGINEERS, IRONFOUNDERS, BOILER MAKERS, and MANUFACTURERS
EVERY DESCRIPTION OF RAILWAY MACHINERY.



LOCOMOTIVE ENGINES, for MINERAL and CONTRACTORS' RAILWAYS, of the best materials and workmanship, always in progress. These engines are designed to supply the chief requisites in tank locomotives—viz., reduction of the overhanging weight at the fire-box end, proper distribution of the weight upon the wheels, and keeping the centre of gravity low. These are accomplished by making the fire-box and its shell on an improved principle, which enables the driving axle to be placed further back without interfering with the eccentrics and valve gear, which are of the usual simple description.

THOMAS TURTON AND SONS
MANUFACTURERS OF
CAST STEEL FOR PUNCHES, TAPS, and DIES,
TURNING TOOLS, CHISELS, &c.
CAST STEEL PISTON RODS, CRANK PINS, CONNECTING RODS, STRAIGHT AND CRANK AXLES, SHAFTS and
FORGINGS OF EVERY DESCRIPTION.
DOUBLE SHEAR STEEL, FILES MARKED
T. TURTON.
BRISTOL STEEL, EDGAR TOOLS MARKED
WM. GREAVES & SONS.
GERMAN STEEL, Locomotive Engines, Railway Carriage and Wagon Springs and Buffers.

SHEAF WORKS AND SPRING WORKS, SHEFFIELD.
LONDON WAREHOUSE, 35, QUEEN STREET, CANNON STREET, CITY, E.C.
Where the largest stock in the world may be selected from.

First Class Silver Medal, Royal Polytechnic Society, Falmouth, 1864.

CREASE'S PNEUMATIC TUNNELLING ENGINE, for SUPERSEDING THE SLOW AND EXPENSIVE USE OF MANUAL LABOUR IN SINKING SHAFTS, DRIVING LEVELS, TUNNELLING, &c., is guaranteed to drive through any rock of average hardness at a minimum rate of 1 in. per day, and to sink shafts at the rate of 2 fms. in three days.
Mr. CREASE will undertake contracts for sinking shafts, driving levels, &c., with enormous reduction of time and great saving in cost.
Applications to be addressed (for the present) to the patentee, Mr. E. S. CREASE, Tavistock, Devon.

CHARLES DAVEY AND CO.,
SAFETY FUSE MANUFACTURERS,
ST. HELEN'S JUNCTION, LANCASHIRE.

International Exhibition, 1862—Prize Medal.



JAMES RUSSELL AND SONS
(the original patentees and first makers of wrought-iron tubes), of the CROWN PATENT TUBE WORKS, WEDNESBURY, STAFFORDSHIRE, have been AWARDED A PRIZE MEDAL for the "good work" displayed in their wrought-iron tubes and fittings.
Warehouse, 51, Upper Ground-street, London, S.

BICKFORD'S PATENT SAFETY-FUSE OBTAINED THE PRIZE MEDALS at the ROYAL EXHIBITION of 1851, at the INTERNATIONAL EXHIBITION of 1855, in London, and at the IMPERIAL EXHIBITION held in Paris, in 1855.

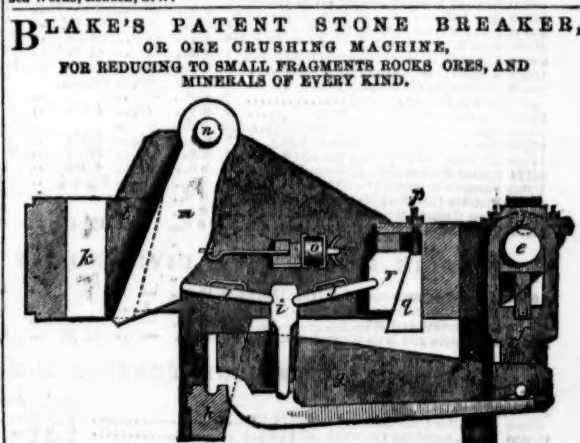


BICKFORD, SMITH, AND CO.,
TUCKINGMILL, CORNWALL, MANUFACTURERS, of PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following announcement:—
EVERY COIL OF FUSE MANUFACTURED by them TWO SEPARATE THREADS PASSING THROUGH THE COLUMN OF GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS AS THEIR TRADE MARK.

Prize Medals—International Exhibition, Class 1 and 2.

PATENT PLUMBAGO CRUCIBLES.
The CRUCIBLES manufactured by the PATENT PLUMBAGO CRUCIBLE COMPANY are the ONLY KIND for which a MEDAL has been AWARDED, and are now used exclusively by the English, Australian, and Indian Miners; the French, Russian, and other Continental Miners; the Royal Armaments of Woolwich, Brest, and Toulon, &c.; and have been adopted by most of the large ENGINEERS, BRASSFOUNDERS, and REFINERS in this country and abroad. The GREAT SUPERIORITY of these melting pots consists in their capability of melting on an average 40 pourings of the most difficult metals, and a still greater number of those of an ordinary character, some of them having actually reached the EXTRAORDINARY NUMBER of 96 meltings. They are unaffected by changes of temperature, never crack, and become heated much more rapidly than any other crucibles. In consequence of their great durability, the saving of waste is also very considerable.
The company have recently introduced CRUCIBLES SPECIALLY ADAPTED for the following purposes, viz.:—MALLEABLE IRON MELTING, the average working of which has proved to be about seven days; STEEL MELTING, which are found to save nearly 1 1/4 ton of fuel to every ton of steel fused; and for ZINC MELTING, lasting much longer than the ordinary iron pots, and saving the great loss which arises from mixture with iron.
The Patent Plumbago Crucible Company likewise manufacture and import Clay Crucibles, Muffles, Portable Furnaces, &c., Store Backs, all descriptions of fire-standing goods, and every requisite for the Assayer and Dentist.
For lists, testimonials, &c., apply to the Patent Plumbago Crucible Company, Battersea Works, London, S.W.

BLAKE'S PATENT STONE BREAKER,
OR ORE CRUSHING MACHINE,
FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.



It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England.
The above section illustrates Blake's Stone Breaker, just as made the last five years and is fully protected in every part by patents.
Extract from Specification:—A short but powerful vibration is imparted to one or both of the jaws by any convenient arrangement, and combination of powerful levers, worked by a crank or eccentric on the main shaft.
LEGAL PROCEEDINGS will be taken at once against any person or persons found making, using, or vending any machine, the construction of which will constitute an infringement on the above patent. Read extracts of testimonials:—
Aldrich Works, near Wednesbury.—I at first thought the outlay too much for so simple an article, but now think it money well spent. WILLIAM HURT.
Welsh Gold Mining Company, Dolgelly.—The stone breaker does its work admirably, crushing the hardest stones and quartz. WM. DANIEL.
Our 15 by 7 in. machine has broken 4 tons of hard winstone in 20 minutes, for fine road metal, free from dust. Messrs. GAD and MARSDEN, Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton. JOHN LAWRENCE.
Oreoca, Ireland.—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour. WM. G. ROBERTS.
General Frémont's Mines, California.—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or \$75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate. SILAS WILLIAMS.

For circulars and testimonials, apply to—
H. E. MARSDEN, SOHO FOUNDRY,
MEADOW LANE, LEEDS.
Only maker in the United Kingdom.

THE MINING SHARE LIST

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last paid
1900	Alderley Edge (cop.), Cheshire [L.]	10 0 0	—	—	11 3 0	15 0 0—Dec. 1884
4000	Bedford United (cop.), Tavistock	2 6 0	—	—	11 11 0	9 2 0—Oct. 1884
1948	Boscawell (tin), copper, St. Just	6 15 0	—	—	1 5 0	0 0—May 1884
300	Botallack (tin), copper, St. Just	81 5 0	—	—	477 15 0	3 0 0—May 1884
1600	Brixham Hematite Iron [L.]	6 7 0	—	—	0 0 0	0 0—Nov. 1884
1600	Bryon (lead), Cardigan [L.]	12 0 0	—	—	5 10 0	0 15 0—Jan. 1885
1900	Bryn Gwyn (lead), Mold, [L.]	9 0 0	—	—	—	2 10 0—Mar. 1885
916	Carroll (silver), Newlyn	18 2 0	—	—	10 0 0	0 15 0—Mar. 1885
1900	Carn Brea (copper), tin, Illogan	25 0 0	—	—	250 10 0	2 0 0—June 1884
2800	Clifford Amalgamated (cop.), Gwyn	30 0 0	—	—	2 6 0	0 12 0—Feb. 1885
3000	Copper Mines of England	25 0 0	—	—	7 1/2 per cent.	—Half-yrly.
40000	Ditto ditto (stock)	100 0 0	—	—	15 0 0	1 0 0—Mar. 1885
887	Cwm Eryn (lead), Cardiganshire [L.]	7 10 0	—	—	275 10 0	4 0 0—Jan. 1885
138	Cwmystwith (lead), Cardiganshire	60 0 0	—	—	275 10 0	4 0 0—Jan. 1885
280	Darwent Mines (sil.), lead, Durham	300 0 0	—	—	962 0 0	9 0 0—Mar. 1885
284	Devon Gt. Con. (cop.), Tavistock [S.E.]	1 0 0	590	—	791 10 0	5 0 0—April 1885
512	Dolcoath (copper), tin, Camborne	128 17 6	—	—	138 0 0	1 0 0—Nov. 1884
512	East Basset (cop.), Redruth [S.E.]	29 10 0	20	20 23 1/2	12 13 0	0 10 0—Jan. 1885
6144	East Caradon (copper), St. Cleer [S.E.]	2 14 0	18	18 15 1/2	103 10 0	2 0 0—Feb. 1885
800	East Darwen (lead), Cardiganshire	32 0 0	—	—	0 0 0	0 0—Feb. 1885
128	East Pool (tin), copper, Pool, Illogan	24 0 0	—	—	66 0 0	1 0 0—Mar. 1885
5000	East Rosewarne (cop.), tin, Gwinnar	2 15 0	1 1/2	1 1/2 1 1/2	2 0 0	0 10 0—Mar. 1885
2800	Foxdale (lead) Isle of Man [L.]	25 0 0	—	—	2 1 0	0 10 0—Mar. 1885
5000	Frank Mills (lead), Christow	3 18 0	6 1/2	6 1/2	2 0 0	0 10 0—Mar. 1885
15100	Great Laxey (lead), Isle of Man [L.]	4 0 0	—	—	15 0 0	0 5 0—Aug. 1884
4908	Great Wh. Vor (tin), cop., Helston [S.E.]	40 0 0	31	30 31	31 10 0	1 15 0—Feb. 1885
119	Great Work (tin), Garmoe	100 0 0	—	—	480 10 0	3 0 0—Feb. 1885
1000	Herodotus (id.), near Liskeard [S.E.]	8 10 0	40	38 40	1 0 0	0 10 0—Oct. 1884
4000	Liburnia (lead), Cardiganshire, Wales	18 0 0	—	—	0 0 0	0 0—Jan. 1885
3000	Mace-y-Naif (lead) [L.]	20 0 0	—	—	169 18 0	7 0 0—Feb. 1885
3000	Marke Valley (copper), Cardigan	20 0 0	—	—	16 19 7	0 13 0—Jan. 1885
3000	Miners' Boundary (lead), Wrexham [L.]	1 0 0	5 1/2	5 1/2	7 0 0	1 0 0—June 1884
1800	Miners' Mining Co. [L.] (id.), Wrexham	25 0 0	—	—	0 0 0	0 0—Mar. 1885
30000	Miners' Co. of Ireland (cop., lead, coal)	7 0 0	—	—	0 0 0	0 0—Mar. 1885
40000	Mynydd (iron ore) [L.] (S.E.)	2 10 0	—	—	0 0 0	0 0—April 1884
250	Nanty Mines (lead), Montgomery	20 0 0	—	—	0 0 0	0 0—June 1884
4000	New Birch Tor and Vitrifer Cons. (tin)	1 6 0	—	—	0 11 0	0 1 0—Oct. 1884
1900	North Trerkerby (copper), St. Agnes	1 0 0	2 1/2	2 1/2 3 1/2	0 13 0	0 2 0—Feb. 1884
300	Parys Mines (copper), Anglesey [L.]	60 0 0	—	—	135 0 0	12 10 0—Jan. 1885
1132	Providence (tin), Ury Lelant [S.E.]	10 0 0	31	30 32	76 5 0	1 0 0—Feb. 1885
300	Silver Lake Mining Company	250 0 0	—	—	—	2 10 0—Dec. 1884
812	South Caradon (cop.), St. Cleer [S.E.]	1 5 0	590	—	475 10 0	5 0 0—Mar. 1885
4000	St. Day United (tin), Redruth	14 0 0	3 1/2	3 1/2	490 10 0	0 10 0—Mar. 1885
940	St. Ives Consols (tin), St. Ives	8 0 0	—	—	16 11 0	0 10 0—Mar. 1885
6000	Tincroft (cop., tin), Pool, Illogan [S.E.]	9 0 0	14 1/2	14 15	26 9 0	0 6 0—Mar. 1885
6000	West Basset (copper), Illogan [S.E.]	1 10 0	—	—	4 10 0	0 15 0—Feb. 1885
8000	W. Chiverton (id.), Perranabuloe [S.E.]	—	60	59 61	53 10 0	1 0 0—Nov. 1884
254	West Damsel (copper), Gwennap	38 10 0	—	—	429 0 0	4 0 0—April 1885
1000	W. Wh. Seton (cop.), Camborne [S.E.]	47 10 0	190	180 190	0 0 0	0 0—April 1885
812	Wheel Basset (copper), Redruth [S.E.]	5 0 0	100	95 100	0 0 0	0 0—April 1885
812	Wheel Japs (silver), lead, Kea	5 0 0	—	—	15 0 0	0 10 0—Apr. 1884
4294	Wheel Kitty (tin), St. Agnes	5 4 0	—	—	59 17 0	0 10 0—Feb. 1885
1024	Wh. Mary Ann (id.), Menheniot [S.E.]	8 0 0	—	—	288 5 0	4 0 0—Mar. 1885
80	Wh. Mary (tin), Lelant	36 2 0	—	—	243 3 0	5 0 0—May 1884
80	Wh. Mary (tin), St. Just, Cornwall	70 0 0	—	—	196 15 0	5 0 0—April 1885
896	Wh. Mary (tin), copper, Camborne	58 10 0	210	202 1/2 208	51 10 0	0 12 0—Mar. 1885
1040	Wh. Mary (tin), lead, Liskeard [S.E.]	5 17 0	20	19 20	14 17 0	0 6 0—Oct. 1884
7000	Wicklow (copper) [L.]	2 10 0	—	—	—	—

* Dividends paid every two months. † Dividends paid every three months.

BRITISH MINES WITH DIVIDENDS IN ABEYANCE.

340	Rosecan (tin), St. Just	20 10 0	—	—	36 10 0	1 0 0—Mar. 1882
3000	Chiverton (lead), Perranabuloe [S.E.]	6 0 0	6	5 5 1/2	85 0 0	2 0 0—June 1887
284	Condurow (cop., tin), Camborne	76 10 0	—	—	1 7 0	0 7 0—May 1887
2850	Cook's Kitchen (copper), Illogan	18 9 0	7	6 1/2 7	2 7 0	—Sept. 1882
1024	Copper Hill (copper), Redruth	12 0 0	—	—	7 12 0	0 4 0—July 1882
1054	Craddock Moor (copper), St. Agnes	6 8 0	15	10 15	0 16 0	0 1 0—Feb. 1889
4078	Devon and Cornwall (cop.), Tavistock	6 8 0	15	10 15	0 16 0	0 1 0—Feb. 1889
12800	Drake Walls (tin), copper, Calstock	3 1 0	—	—	0 17 0	0 6 0—Jan. 1883
5000	Dynghwng (lead), Wales	12 6 0	—	—	1 10 0	0 16 0—May 1884
1908	East Wheel Lovell (tin), Wendron	9 0 0	10 1/2	10 11	41 9 0	0 2 0—June 1884
940	Fowey Consols (copper), Tywardreath	4 7 0	—	—	7 18 0	0 5 0—Dec. 1882
8000	Great South Tolgus (copper), Redruth	0 14 0	2 1/2	1 1/2 2	0 30 0	0 1 0—Mar. 1882
10240	Gunnislake (Clitters' Adit) (copper)	0 2 0	—	—	18 18 1	0 7 0—Aug. 1882
180	Levant (copper), tin, St. Just	2 10 0	—	—	0 10 0	0 8 0—Mar. 1883
840	Mount Pleasant (lead), Mold	4 0 0	—	—	36 19 0	0 2 0—Mar. 1883
8000	Orehead (lead), Flintshire	1 0 0	—	—	7 19 0	0 10 0—Nov. 1883
6400	Par Consols (cop., tin), St. Agnes	15 0 0	—	—	1 0 0	0 1 0—July 1883
177	Pollbren (tin), St. Agnes	8 0 0	—	—	0 10 0	0 1 0—July 1883
812	Pollbren (tin), St. Agnes	8 0 0	—	—	0 10 0	0 1 0—July 1883
8000	Rosewall Hill and Ransom United	3 10 0	—	—	74 10 0	1 0 0—May 1883
8000	South Exmouth (lead), Christow	2 0 0	—	—	370 18 0	1 0 0—Nov. 1883
812	South Tolgus (cop.), Redruth	8 0 0	24	22 24	9 15 0	1 0 0—June 1882
498	S. Wh. Frances (cop.), Illogan [S.E.]	18 18 0	—	—	7 0 0	0 10 0—Sept. 1882
280	Sparrow Moor (tin), copper, St. Just	32 17 0	—	—	11 0 0	0 2 0—Mar. 1882
172	Trevelyan Consols (tin), St. Ives	14 10 0	—	—	8 2 0	0 10 0—Mar. 1884
1000	Trevelyan Consols (tin), St. Ives	14 10 0	—	—	8 2 0	0 10 0—Mar. 1884
4200	Vigra and Clogau (copper) [L.]	5 0 0	21	—	14 10 0	3 0 0—June 1881
1024	Wendron Consols (tin), Wendron	20 13 0	—	—	101 1 0	0 10 0—Oct. 1882
80	West Burton Hill (lead), Yorkshire	50 0 0	—	—	3 0 0	0 10 0—Oct. 1882
1024	West Caradon (cop.), Liskeard [S.E.]	9 0 0	7 1/2	7 8	295 10 0	5 0 0—Feb. 1881
1024	Wheel Basset and Grylls (tin)	7 0 0	—	—	10 2 0	0 7 0—July 1884
1024	Wheel Friendship (copper), Devon	20 0 0	—	—	76 8 0	1 0 0—May 1883
1024	Wheel Kitty (tin), Ury Lelant [S.E.]	3 0 0	—	—	6 13 0	0 5 0—Nov. 1883
3044	Wheel Margaret (tin), Ury Lelant	18 17 0	—	—	0 19 0	0 3 0—May 1882
8000	West Fowey Consols (tin and copper)	7 10 0	—	—	—	0 0—Jan. 1884
8000	Wharfedale Mining Company [L.]	0 5 0	—	—	—	—

FOREIGN DIVIDEND MINES.

20000	Australasian (cop.), S. Australia [S.E.]	7 7 0	—	—	0 10 0	0 10 0—Dec. 1883
2444	Burra Burra (cop.), S. Australia	—	—	—	320 0 0	0 0 0—Sept. 1884
4000	Central American (silver) [L.]	5 0 0	—	—	4 6 0	0 14 0—Dec. 1883
15000	Cape Copper Mining [L.] [S.E.]	7 0 0	11 1/2	10 10 1/2	0 15 0	0 5 0—Sept. 1884
12000	Cobra Copper Co. (cop.), Cuba [S.E.]	40 0 0	28	26 28	101 0 0	1 0 0—Jan. 1885
100000	Don Pedro N. del Rey [L.] [S.E.]	0 12 0	—	—	0 0 0	0 0—Dec. 1883
70000	English and Australian	8 0 0	—	—	1 12 0	0 2 0—Aug. 1884
18000	East Indian Coal, Calcutta [L.]	10 0 0	—	—	0 14 0	0 3 0—June 1884
35000	Fortuna (copper), Spain [L.] [S.E.]	0 0 0	3 1/2	3 1/2 3 1/2	21 10 0	1 0 0—June 1884
25000	Gen. Mining Assoc., Nova Scotia [L.]	3 20 0	—	—	0 10 0	0 1 0—June 1884
80000	Kapunda Mining Co. Australia [S.E.]	1 0 0	—	—	11 6 0	0 5 0—Jan. 1885
15000	Linares (lead), Spain [L.] [S.E.]	3 0 0	—	—	1 4 0	0 3 0—Jan. 1885
10000	Lusitania (Portugal) [S.E.]	2 0 0	2 1/2	1 1/2 2 1/2	0 10 0	0 10 0—Aug. 1884
9275	New Wildberg (copper)	3 0 0	—	—	7 1/2 per cent.	—Yearly.
80000	Panulic (copper) [L.] [S.E.]	3 0 0	4 1/2	4 1/2	2 3 0	0 16 0—Dec. 1884
10000	Pontblynnog (sil., lead), France [S.E.]	320 0 0	—	—	0 12 0	0 1 0—July 1884
97500	Port Phillip (gold), Clunes [S.E.]	1 0 0	1 1/2	1 1 1/2	63 15 0	2 10 0—June 1884
11000	St. John del Rey [L.] [S.E.]	15 0 0	34	26 27	2 19 0	0 5 0—Sept. 1884
43174	United Mexican (lead), Mexico [S.E.]	8 0 0	4 1/2	4 1/2	0 15 0	0 5 0—Nov. 1884
10000	Vancouver (coal) [L.]	5 0 0	—	—	0 7 0	0 5 0—Jan. 1885
60000	Victoria (London) Mining Co. [L.]	1 0 0	—	—	0 17 0	0 5 0—Dec. 1883
20000	West Canada Mining Company [L.]	1 0 0	—	—	0 5 0	0 5 0—Aug. 1883
45000	Yudamutana (cop.), S. A. [L.] [S.E.]	3 0 0	1 1/2	1 1/2 1 1/2	—	—

FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

10000	Allen and Quinmanen Uni. (cop.) [L.] [S.E.]	10 0 0	—	—	4 5 0	0 15 0—Nov. 1883
10000	Copio Mining Company, Chili [L.] [S.E.]	16 0 0	—	—	6 18 0	0 10 0—Nov. 1883
10000	El Barrio Land, Min. & Co., N. Z. [L.] [S.E.]	6 0 0	—	—	18 per cent.	—May 1889
10000	Mariguata and New Granada [S.E.]	1 0 0	—	—	0 9 0	0 1 0—July 1889

NON-DIVIDEND FOREIGN MINES.

Mines.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
85000	Alamillos (lead), Spain [L. £3] [S.E.]	1 5 0	1 1/2	1 1/2 1 1/2	..Sept. 1864
100000	Anglo-Brazilian (gold) [L. £1] [S.E.]	0 6 0	..	..%	..Dec. 1863
20000	Bear's Tin Streaming Company [L. £1]	0 17 6	..	..%	..Oct. 1863
25000	Capula (silver), Mexico [L. £3] [S.E.]	1 5 0	1 1/2	1 1/2 1 1/2	..Feb. 1864
10000	Copado Smelting [L.], Chili	10 0 0	..	..	..Fully paid.
75000	Dun Mountain (copper), New Zealand [L.] [S.E.]	1 0 0	..	..	..Fully paid.
20000	East del Rey (gold), Brazil [L. £3] [S.E.]	2 0 0	1	1 1/2	..Feb. 1865
15000	El Chico Silver Mining and Reduction Company [L. £5]	3 0 0	..	..	..Fully paid.
8000	English and Canadian Mining Company [L.]	5 0 0	..	..	..Fully paid.
40000	Fortuna (copper), West Australia [L.]	2 0 0	..	..	..Fully paid.
50000	Frontino and Bolivia (gold), New Granada [L. £3] [S.E.]	1 0 0	..	..	..Mar. 1865
80000	Great Northern (copper), South Australia [L. £3] [S.E.]	1 10 0	..	..	..June, 1862
24000	Hindostan (copper), Bengal [L.] [S.E.]	3 0 0	..	..	..Feb. 1863
4000	Hop Silver-Lead and Copper Mining Co. [L.]	25 0 0	..	..	..Fully paid.
150000	Lagunas (sulphur, copper), Portugal [L.]	1 0 0	..	..	..Fully paid.
150000	Montes Aneiros (gold), Brazil [L.] [S.E.]	2 0 0	..	..%	..Fully paid.
80000	Nova Scotia (lead and gold) [L. £3]	1 0 0	..	..	..Nov. 1862
10000	Ota (copper) New Zealand [L. £3]	0 15 0	..	..	..Sept. 1864
18000	Pacheco Silver Mining Company, Mexico [L. £1]	1 0 0	..	..	..June, 1863
8000	Peel River Land and Mineral (Limited)	100 0 0	..	..	..Stock.
25000	Quebrada (copper), Venezuela [L. £10]	6 10 0	5	4 5	..Sept. 1864
80000	Rioa Grande (gold), Brazil [L. £1] [S.E.]	0 5 0	..	..	..April, 1864
10000	San Roque (lead), Spain	5 0 0	..	..	..Fully paid.
60000	Santa Barbara (gold), Brazil [L. £1]	0 15 0	..	..%	..Oct. 1864
30000	Scottish Australian Mining Company [L. £1]	0 17 6	..	..%	..Feb. 1864
15000	South Europe Mining Company, Spain [L. £5]	5 0 0	..	..	..Fully paid.
15000	Tepita Colliery Co., Bohemia [L. £5]	3 0 0	..	..	..June, 1863
5000	Val Antigua (gold) [L. £2]	0 10 0	..	..%	..
5000	Valguadua (gold), Spain [L. £20]	15 0 0	..	..%	..Mar. 1865
40000	Vallanueva (gold), Italy [L. £1] [S.E.]	0 10 0	1 1/2	1 1/2 1 1/2	..Oct. 1864
20000	Victor Emanuel (copper), Italy [L.]	1 0 0	..	..	..Fully paid.
1000	Western Africa Malachite (copper) [L.]	110 0 0	..	..	..Oct. 1862
12000	Wheel Ellen (copper), South Australia [L.]	5 0 0	..	..	..Fully paid.
50000	Worthing (copper), South Australia [L.] [S.E.]	1 0 0	..	..%	..Fully paid.
7000	Yorks Peninsula, South Australia [L. £1]	2 0 0	..	..	..Fully paid.